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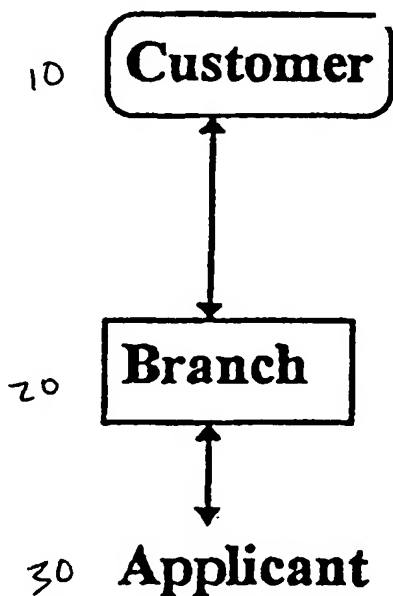
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(54) Title: **AN ON-LINE MANAGEMENT SYSTEM AND METHOD FOR PROVIDING PRODUCTS AND SERVICES, PARTICULARLY EMPLOYMENT STAFFING SERVICES**



(57) Abstract: An on-line system for managing an order. The system comprises a customer (10), such as any company that desires to fill an employment position, typically contacts a staffing service branch (20). The customer (10) informs branch (20) of the qualification which the position requires, and the branch (20) contacts an applicant (30) having the desired qualifications.

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**AN ON-LINE MANAGEMENT SYSTEM AND METHOD FOR PROVIDING
PRODUCTS AND SERVICES, PARTICULARLY EMPLOYMENT STAFFING
SERVICES**

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Field Of The Invention

This invention relates to an on-line system and method for managing an order, and more specifically to a system and method which provides an on-line, end-to-end, automated and auditable system for managing, in a preferred embodiment, an order to fill an employment position.

Background Of The Invention

The employment staffing service industry has grown considerably in recent years. However, despite the increased demand for employment staffing services, the pervading business model for providing these services has not evolved or improved significantly over the last two decades.

Figure 1 is a diagram that illustrates, according to the prior art, a currently employed employment staffing service business model. Specifically, Figure 1 illustrates the relationships that may exist between the three entities that typically use employment staffing services, namely the customer, the supplier and the applicant/employee. Customer 10, such as any company that desires to fill an employment position, typically contacts a staffing service branch 20. Customer 10 informs branch 20 of the qualifications which the position requires, and branch 20 contacts an applicant 30 having the desired qualifications. Applicant 30 may already be known to branch 20 (e.g.- applicant 30 may have contacted branch 20 for

the purpose of assisting them to find a position), or else applicant 30 may not be known to branch 20, in which case branch 20 may be required to advertise the available position.

In either case, applicant 30 is typically interviewed by branch 20. If branch 20 feels that applicant 30 is well qualified, it forwards the applicant directly, or the applicant's resume, to customer 10. If customer 10 likes the resume, it requests that branch 20 arrange an interview. Based on the results of the interview, customer may hire applicant 30. Once hired, applicant 30 typically hand-delivers or faxes weekly timesheets, approved by a supervisor at customer 10, to branch 20 and is paid by branch 20. Branch 20 is required to generate payroll, invoices, w-2 forms, etc. in order to track payments that are made to employees and received from customers. The continual flow of letters, faxes and telephone calls during this whole process is extremely labor-intensive, resulting in high overhead costs to customer 10 and branch 20.

Figure 2, on the other hand, illustrates another currently employed employment staffing service business model. Specifically, Figure 1 illustrates an increasingly common situation in which, due to the high number of positions required to be filled at customer 10, branch 20 maintains a "vendor-on-premises" (or VOP) at customer 10's offices. The VOP typically fills orders for positions by recommending applicants 30 from either branch 20 or from a subcontractor 50 which is contracted to customer 10 to provide staff when needed. However, this business model also has very high overhead costs.

In addition to exacerbating the high costs and inefficiency associated with providing employment staffing services, these systems also fail to effectively provide

the purpose of assisting them to find a position), or else applicant 30 may not be known to branch 20, in which case branch 20 may be required to advertise the available position.

In either case, applicant 30 is typically interviewed by branch 20. If branch 20 feels that applicant 30 is well qualified, it forwards the applicant directly, or the applicant's resume, to customer 10. If customer 10 likes the resume, it requests that branch 20 arrange an interview. Based on the results of the interview, customer may hire applicant 30. Once hired, applicant 30 typically hand-delivers or faxes weekly timesheets, approved by a supervisor at customer 10, to branch 20 and is paid by branch 20. Branch 20 is required to generate payroll, invoices, w-2 forms, etc. in order to track payments that are made to employees and received from customers. The continual flow of letters, faxes and telephone calls during this whole process is extremely labor-intensive, resulting in high overhead costs to customer 10 and branch 20.

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In addition to exacerbating the high costs and inefficiency associated with providing employment staffing services, these systems also fail to effectively provide

customer 10 with much of the information they require in a timely manner. For instance, customer 10 typically requires that the staffing service branch 20 which provides temporary employees to them maintain adequate insurance coverage. However, customer 10 typically does not have an effective methodology for confirming a staffing service branch 20's compliance with these requirements. In addition, customer 10 typically does not have an effective methodology to advise a branch 20 about its unique employment policies (e.g.- when temporary employees exceed a set number of hours and are thereby eligible for permanent employee status), nor does it have an effective methodology to be advised by branch 20 when its policies are not being implemented to customer 10's greatest benefit or are not being implemented in compliance with applicable employment laws.

In addition, the workflow and employment policies of a customer are rarely implemented in a consistent and optimal way. For instance, each time a customer decides to utilize a new supplier, the customer must reimplement its procedures to insure that the supplier will conform to the customer's workflow and policies. Furthermore, there is no way to be certain that a customer is using the same workflow and is abiding by its own policies when filling positions or maintaining employees in existing positions.

Thus, there is a need for an improved structured system and consistent method for managing orders for products and services, particularly orders for an employment position.

Summary Of The Invention

The present invention, in accordance with various embodiments thereof, is

directed to an on-line system and method for managing an order. The system comprises a predictable processor which is accessible to a customer and to a supplier via the Internet. In addition, the processor is configured to maintain an addressable web site for providing an interface to the customer. The interface is configured to prompt for and to receive from the customer data corresponding to the order, and to transmit to the supplier the data corresponding to the order. A system controller is configured to monitor an amount of time required for the supplier to fill the order. In a preferred embodiment, the order which the system is configured to manage comprises an order to fill an employment position.

Advantageously, the system of the present invention employs a workflow whereby e-mail messages are transmitted to a supplier or a first set of suppliers requesting that an order be filled. Preferably, the system controller is configured to transmit the order to a second supplier or a second set of suppliers when an amount of time required for the first supplier or set of suppliers to fill the order exceeds a predetermined threshold. In another embodiment, the system employs a database and is configured to store in a customer data storage means data corresponding to a hierarchy of managers at said customer, and, prior to transmitting an order to a supplier, to generate and transmit a request for approval of the order to at least one manager other than the manager that placed the order according to the customer hierarchy.

In one embodiment, the system is configured such that the supplier can fill the order by responding to the customer's e-mail message, preferably with its own e-mail message including a resume and order requisition information. In response to the supplier's e-mail message, the system generates and provides the customer with an interface for

scheduling interviews and hiring an applicant based on the resume and other information provided by the system, requesting an interview with the applicant and finally hiring or rejecting the applicant. If the customer selects to hire the applicant, the system is configured to automatically generate and transmit a request for approval of the hire to at least one of the managers in the customer hierarchy. In addition, the system is preferably configured to provide an interface to the applicant to conduct an interview with the customer, either in the format of an on-line chat group or an on-line video presentation.

The system may also be configured to provide an interface to the applicant for entering a timesheet via interactive voice recognition or a web interface. Similar to that mentioned above, the system is further configured to transmit the timesheet to the customer for approval, and to determine an amount of time required for the customer to approve said timesheet. The system controller is further configured to automatically transmit the timesheet for approval to at least one other manager at the customer, according to the customer's stored hierarchy when an amount of time for the customer to approve the timesheet exceeds a predetermined maximum value. The system may also comprise additional data storage means, such as transactional data storage means for storing data corresponding to the approval e-mails.

In accordance with various other embodiments of the invention, the system employs an invoice process module which generates invoices using customer data entered by the customer and timesheet data entered by an applicant/worker. The system may also comprise a job alarm module and data storage tables, which are employed to warn a customer when certain events have occurred or are about to occur, such as when an applicant having

temporary employee status is about to exceed the predetermined number of hours to become a permanent employee, as regulated by federal employment laws.

The system of the present invention may also be configured, according to one embodiment, to develop a knowledge base corresponding to various types of data which has been entered, to procure the optimal candidate. For instance, in one embodiment, the system is configured to determine the skills of an applicant which are most likely to result in an applicant receiving positive performance evaluations by compiling and processing data corresponding to positions, performance evaluations and applicant skills.

The present invention can also be employed, according to various embodiments of the invention, to order products and services other than employment staffing services. For instance, in one embodiment, an order which is transmitted by a customer to a supplier is an order for a product, such as flowers, gifts, travel tickets, etc., or else is an order for a service such as limousine services, travel arrangements, food services, etc.

Brief Description Of The Drawings

The subject matter regarded as the invention is particularly pointed out and distinctly claimed in the concluding portion of the specification. The invention, however, both as to organization and method of operation, together with features, objects, and advantages thereof may best be understood by reference to the following detailed description when read with the accompanying drawings in which:

Figure 1 is a diagram that illustrates, according to the prior art, a currently

employed employment staffing service business model;

Figure 2, on the other hand, illustrates another currently employed employment staffing service business model;

Figure 3 is a diagram that illustrates the various components of a staffing management system, according to one embodiment of the invention;

Figure 4(a) and 4(b) illustrate formats of customer data storage tables in customer process modules, in accordance with one embodiment of the present invention;

Figure 5 illustrates a format of data storage tables in a supplier process module, in accordance with one embodiment of the present invention;

Figure 6 illustrates a format of data storage tables in a transactional process module, in accordance with one embodiment of the present invention;

Figure 7 illustrates a format of data storage tables in an applicant process module, in accordance with one embodiment of the present invention;

Figure 8(a) is a diagram that illustrates various sets of interfaces for operation by a customer, according to one embodiment of the invention;

Figure 8(b) is a diagram that illustrates various sets of interfaces for operation

by a supplier, according to one embodiment of the invention;

Figure 8(c) is a diagram that illustrates various sets of interfaces for operation by a applicant, according to one embodiment of the invention;

Figure 8(d) is a diagram that illustrates various sets of interfaces e-mail operations, according to one embodiment of the invention;

Figure 8(e) is a flowchart that illustrates the steps performed to generate an invoice, according to one embodiment of the invention;

Figure 9 illustrates an interface which is employed in order for a customer to initiate and submit a new order for a position to be filled, according to one embodiment of the invention;

Figure 10 is a flowchart that illustrates the steps which are performed in order to initiate and submit a new order for a position to be filled, according to one embodiment of the invention;

Figure 11 is a diagram that illustrates an interface may be employed for creating and modifying employee evaluations, according to one embodiment of the invention;

Figure 12 is a diagram that illustrates an order history interface which is

employed to inquire about an order status, according to one embodiment of the invention;

Figure 13 is a diagram that illustrates a pending order interface which may be employed to display a list of pending orders, according to one embodiment of the invention;

Figure 14 is a diagram that illustrates an excellent performer interface which is employed to display a list of employees who have received excellent evaluations, according to one embodiment of the invention; and

Figure 15 is a diagram that illustrates a timesheet interface which is employed to enter the amount of hours that an employee has worked, according to one embodiment of the invention.

Detailed Description Of The Invention

This invention relates to an on-line management system and method for providing products and services, and more specifically to a system and method which provides an on-line, end-to-end, automated and auditable system for managing, in a preferred embodiment, employment staffing processes.

As previously indicated, the system and method of the present invention may be employed to facilitate the provision of services and products of any type. However, the system and method are particularly well-suited to provide employment staffing services, and it is this particular services which will be used herein to demonstrate the features of the invention. It is noted, however, that the present invention is not intended to be limited in

scope by the employment staffing service business described herein, and that the present invention can also be employed in many other ways. Some of these ways are discussed in more detail below.

For the purposes of this application, the following users of the system are defined as such: a customer is a person or entity who desires to receive a particular service or product, such as a Fortune 1000 company that desires to hire an employee to fill an employment position; a supplier is a person or entity that desires to provide a particular product or service, such as a staffing service branch that has a pool of prospective applicants and that desires to place in an employment position identified by the customer; an applicant or candidate is a person who desires to work in a position - typically the applicant or candidate contacts the supplier with the intention that the supplier direct the applicant into positions that may be available (although this is not necessarily the case and the present invention contemplates that the applicant may access the staffing management system of the present invention directly); an employee is a person who is employed in a position that was identified by the customer.

Figure 3 - System Overview

Figure 3 is a diagram that illustrates the various components of staffing management system 100. Staffing management system 100 may be employed by customers 10 (including a master authority 11 which is described below), suppliers 20, employees 30 and bank or financial institutions 40, each of which is connected to staffing management system 100 via Internet 45. Internet 45 is coupled to staffing management system 100 via processor 50, which is further coupled to viewer display interface 64 and web server 62.

Viewer display interface 64 provides the display interfaces which are displayed to each end user. Processor 50 is coupled to database 80, which comprises various data storage tables (each data storage table is discussed below).

Web server 62 is coupled to system controller 60. System controller 60 is coupled to various data process modules and is configured to control the various functions that operate system 100, as will be described in more detail below. For instance, system controller 60 is coupled to customer process module 66, which provides the workflow for operations which are performed by customer 10. For instance, customer process module 66 is configured to provide interfaces for use by customer 10 and to process various data in database 80 corresponding to operations performed by customer 10.

In addition, system controller 60 is coupled to supplier process module 68, which provides the workflow for operations which are performed by supplier 20. For instance, supplier process module 68 is configured to provide interfaces for use by supplier 20 and to process various data in database 80 corresponding to operations performed by supplier 20. Furthermore, system controller 60 is coupled to applicant process module 70, which provides the workflow for operations which are performed by applicant 30. For instance, applicant process module 70 is configured to provide interfaces for use by applicant 30 and to process various data in database 80 corresponding to operations performed by applicant 30.

According to one embodiment of the invention, system controller 60 of processor 50 is also coupled to additional modules, such as e-mail process module 72,

invoice process module 74, security process module 76, IVR process module 78 (which is further coupled to telephone network 77), image storage process module 79 and call center module 65 (which is also coupled to telephone network 77). E-mail process module 72 is configured to provide interfaces and control the operation of processor 50 when an e-mail is required by one of the other modules in processor 50, which will be explained further below. Invoice process module 74 is configured to provide interfaces and control the operation of processor 50 to create invoices, as will be explained further below. Security process module 76 is configured to provide interfaces and control the operation of processor 50 to restrict the access of various users of the system. IVR process module 78 is configured to provide interfaces and control the operation of processor 50 to control the processing of timesheet data entry and approval through an interactive voice response system via a telephone network. Image storage process module 79 is configured to provide interfaces and control the operation of processor 50 to display images which have been stored in database 80. Call center module 65 enables applicants, customer and suppliers to receive real-time assistance with technical problems.

As previously mentioned, processor 50 is configured to process data which, in part, is stored in database 80. Database 80 comprises various data storage means, such as data storage tables, which are accessed by the various process modules of processor 50. For instance, customer pre-set data tables module 82 comprise data which is entered by a customer prior to using the system of the present invention. A sample of the format of data in customer pre-set data tables module 82, according to one embodiment of the invention, is shown in Figure 4(a).

In addition, customer data tables module 84, a sample of which is shown Figure 4(b), comprise data which is entered by a customer while using the system of the present invention. Supplier data tables module 86, a sample of which is shown Figure 5, comprise data which corresponds to suppliers, and which may be entered by a supplier or by a customer. Transactional data tables module 88, a sample of which is shown Figure 6, comprise data which corresponds to transactions which occur when all of the users of the system perform various operation, while applicant data tables 90, a sample of which is shown Figure 7, comprise data which corresponds to applicants that may be considered for the various positions available. Job alarm data tables 92 comprise data which corresponds to deadlines and milestones relating to labor law specifics. Images data module 94 comprise scanned documents which corresponds to, for instance, insurance certificates, etc.

DATABASE OVERVIEW

Figure 4(a) - Customer Preset Data Tables Module 82

Figure 4(a) illustrates customer pre-set data tables module 82 which comprises a plurality of data storage tables 1100, according to one embodiment of the present invention. As mentioned above, customer pre-set data tables module 82 comprise data which is entered by a customer prior to using the system of the present invention, and generally in response to a predetermined set of questions provided by staffing management system 100. Customer 10 may provide the data via Internet interfaces or else may provide the data on a storage disk or CD for downloading into staffing management system 100's databases. The data which is stored in customer pre-set data tables module 82 is accessed by processor 50, and most particularly by customer process module 66. Of course, the format of customer pre-set data storage tables module 82 illustrated in Figure 4(a) is merely one format in which customer

data may be stored.

Each customer data table 1100 comprises a list of field names 1102, field type/lengths 1104, comments 1106 and default values 1108. The list of field names 1102 in each table 1100 identify an item of data which is stored in the respective table, while field type/lengths 1104 describe the type of data which is stored in the field and the number of characters which may be stored in the field, comments 1106 describes whether the field is required to have data or whether it is optional to store data therein, and default values 1108 define the value which is assigned to the field in case master authority 11 (master authority 11 is a manager at customer 10 which has solely authority to enter and modify customer preset data) fails to enter data therein. For instance, in Customer Staff Directory table 1110 (which comprises data corresponding to customer master authority names, contact information, etc.), one of the field names described in the field names 1102 list is "Last Name". Field Type/length 1104 indicates that the field may store up to 40 characters, while comments 1106 indicate that the field is required to be filled.

Customer staff directory table 1102 is merely one of the customer data tables 1100 which is shown in Figure 4(a). According to the embodiment shown, customer preset data table 82 may also comprise the following customer data tables 1100: chart of accounts table 1115 which comprises data corresponding to the customer's accounts (such as data corresponding to each center, department, division, etc. within customer 10 which is to be separately billed or invoiced); and customer position table 1120 which comprises data corresponding to the positions in the customer company (e.g.- the name, class, group, etc. of a position, such as "Secretary", "Patent Law Group", etc.).

Figure 4(b) - Customer Data Tables Module 84

Figure 4(b) illustrates customer data tables module 84 which comprises a plurality of data storage tables, according to one embodiment of the invention. As mentioned above, customer data tables module 84 comprise data which is entered by a customer while using the system of the present invention. The data which is stored in customer data tables module 84 is accessed by processor 50, and again most particularly by customer process module 66. Of course, the format of customer data tables module 84 illustrated in Figure 4(b) is merely one format in which customer data may be stored.

According to the embodiment shown, customer data table 84 may comprise the following customer data tables 1100: customer registration table 1125 which comprises data corresponding to the customer's general business policies (such as its normal start and end time for various work shifts, overtime policies, excellent performance criteria ,etc.); customer staff hierarchy table 1130 which comprises data corresponding to the routing hierarchy for notification and approval processing; customer order approval process table 1135 which comprises data corresponding to the personnel in a customer's organization that are authorized to approve timesheets, new hires etc.; customer rate plans table 1140 which comprises data corresponding to the customer's preferred method of calculating an employee's payrate; customer requirements table 1145 which comprises data corresponding to insurance values required by customers of their suppliers, testing (if required), screening such as fingerprinting, etc. (if required); customer performance criteria table 1150 which comprises data corresponding to the categories and scoring system for employee evaluations; customer time-to-fill criteria table 1155 which comprises data corresponding to the threshold amount of time that the customer will permit a supplier to fill an order in; customer reasons

table 1160 which comprises data corresponding to the customer's reasons for wanting to fill a position; and customer documentation table 1165 which comprises data enabling the electronic transfer of funds. These tables are described in greater detail below. Of course, these tables represent only one of many ways in which data corresponding to customers can be stored and the present invention is not intended to be limited to only the data tables shown.

Figure 5 - Supplier Data Tables Module 86

Figure 5 illustrates supplier data tables module 86 which comprises a plurality of data storage tables 1200. Of course, the data storage tables illustrated in Figure 5 are merely one format in which supplier data may be stored. Each table 1200 comprises supplier data which, according to one embodiment, is provided by customers 10 in response to a predetermined set of questions provided by staffing management system 100. Customer 10 may provide the data via Internet interfaces or else may provide the data on a storage disk or CD for downloading into supplier data tables module 86 of database 80. In this manner, customers 10 are able to employ suppliers 20 that they already have business relationships with. Alternatively, the data in supplier data tables module 86 is provided by suppliers, either via Internet interfaces or on disk or CD-ROMs.

Similar to the customer data tables 1100, each supplier data table 1200 comprises a list of a field names 1202, field type/lengths 1204, comments 1206 and default values 1208. The list of field names 1202 in each table 1200 identify an item of data which is stored in the respective table, while field type/lengths 1204 describe the type of data which is stored in the field and the number of characters which may be stored in the field,

comments 1206 describes whether the field is required to have data or whether it is optional to store data therein, and default values 1208 define the value which is assigned to the field in case the master authority fails to store data therein. For instance, in Supplier table 1210, one of the field names described in the field names 1202 list is "Supplier Name". Field Type/length 1204 indicates that the field may store up to 40 characters, while comments 1106 indicate that the field is required to be filled.

Supplier table 1210 is merely one of the supplier data tables 1200 which is shown in Figure 5. According to the embodiment shown, supplier data tables module 86 may also comprise the following supplier data tables 1200: supplier directory table 1215 which comprises data corresponding to each of the applicants which a supplier has provided; supplier rates table 1220 which comprises data corresponding to the rates of pay charged by a supplier for each position; and supplier insurance table 1225 which comprises data relating to the insurance coverage carried by a supplier. These tables are described in greater detail below. Of course, these tables represent only one of many ways in which data corresponding to customers can be stored and the present invention is not intended to be limited to only the data tables shown.

Figure 6 - Transactional Data Tables Module 88

Figure 6 illustrates transactional data tables module 88 which comprises a plurality of data storage tables 1300. Of course, the data storage tables illustrated in Figure 6 are merely one format in which transactional data may be stored. Each table 1300 comprises transactional data which, according to one embodiment, is provided by customers 10 when customer 10 is utilizing the various interfaces of staffing management system 100 to place

orders, hire employees, cancel orders, etc.

Each transactional data table 1300 comprises a list of a field names 1302, descriptions 1304 and field type/lengths 1306. The list of field names 1302 in each table 1300 identify an item of data which is stored in the respective table, while field type/lengths 1306 describe the type of data which is stored in the field and the number of characters which may be stored in the field, and descriptions 1304 describe whether the field related to any other field or table. For instance, in Order table 1312, one of the field names described in the field names 1302 list is "Order_Number". Field Type/length 1306 indicates that the field may store up to 40 characters.

Order table 1312 is merely one of the transactional data tables 1300 which is shown in Figure 6. According to the embodiment shown, transactional data tables module 88 may also comprise the following transactional data tables 1300: order requested suppliers table 1314 which comprises data corresponding to orders that have been requested; order approval history table 1316 which comprises data corresponding to orders that have been approved; order replacement table 1318 which comprises data corresponding to orders that have been replaced; order extension table 1320 which comprises data corresponding to orders that have been extended; order employee table 1322 which comprises data corresponding to which employees have filled which orders; supplier employee table 1324 which comprises data corresponding to which supplier has supplied a particular employee; hire rejection reason table 1326 which comprises data corresponding to the reason that a hire has been rejected; pay raise table 1328 which comprises data corresponding to pay rates that have been raised; interview table 1330 which comprises data corresponding to interviews that have been

arranged; evaluation table 1332 which comprises data corresponding to the evaluation of an employee's performance; evaluation detail table 1334 which comprises additional data corresponding to the evaluation of an employee's performance; timesheet table 1336 which comprises data corresponding to the hours that an employee has worked; time sheet rejection table 1338 which comprises data corresponding to timesheets that have been rejected; applicant's expenses table 1340 which comprises data corresponding to the expenses that have been incurred by an applicant; applicant documentation table 1334 which comprises data corresponding to an applicant such as banking and tax information, etc.; and pass thru table 1344 which comprises data corresponding to any and all information which is required in order to generate invoices and/or paychecks. Of course, these tables represent only one of many ways in which data corresponding to customers can be stored and the present invention is not intended to be limited to only the data tables shown.

Figure 7 - Applicant Data Tables Module 90

Figure 7 illustrates applicant data tables module 90, which comprises a plurality of data storage tables 1400. Of course, the data storage tables 1400 illustrated in Figure 7 are merely one format in which applicant data may be stored. Each table 1400 comprises applicant data corresponding to and provided by an applicant. In a preferred embodiment, an applicant provides the data via Internet interfaces, or else the information is provided by applicants to the suppliers who enter the data in applicant data tables 1400.

Each applicant data table 1400 comprises a list of a field names 1402, descriptions 1406 and field type/lengths 1406. The list of field names 1402 in each table 1400 identify an item of data which is stored in the respective table, while field type/lengths

1406 describe the type of data which is stored in the field and the number of characters which may be stored in the field. For instance, in Applicant table 1410 (which comprises data corresponding to the applicants), one of the field names described in the field names 1402 list is "SS_Number." Field Type/length 1404 indicates that the field may store up to 9 characters.

Applicant table 1410 is merely one of the applicant data tables 1400 which is shown in Figure 7. According to the embodiment shown, applicant data tables module 90 may also comprise the following applicant data tables 1400: applicant education table 1415 which comprises data corresponding to the education of an applicant; applicant work history table 1420 which comprises data corresponding to the positions which an applicant has filled in the past; applicant skills table 1425 which comprises data corresponding to the skills which an applicant possesses; applicant availability table 1430 which comprises data corresponding to the days of the week and the hours of the day during which an applicant is available for work. These tables are described in greater detail below. Of course, these tables represent only one of many ways in which data corresponding to customers can be stored and the present invention is not intended to be limited to only the data tables shown.

Database 80 also comprises, according to various embodiments of the invention, other data table modules and data storage means. For instance, database 80 may comprise, in one embodiment, a job alarm data table module 92, which stores data corresponding to specific labor and employment requirements. Thus, data such as federally mandated deadlines or milestones for employees to receive permanent employee benefits may be stored in job alarm data table module 92, and warning or notifications of approaching deadlines can be generated

by processor 50 for transmission to users of the system.

In addition, database 80 may also comprise a data storage means for storing scanned documents or images. According to one embodiment of the invention, database 80 comprises image storage module 94. Image storage module 94 is configured to store, for instance, scanned documents that a user of the system may desire to view. By way of example, image storage module 94 may be configured, according to one embodiment, to store scanned copies of supplier insurance certificate. Thus, a customer 10 that desires to view a supplier 20's insurance certificate may employ image process module 79 of processor 50 to access a scanned copy of the insurance certificate in image storage module 94. Similarly, a customer 10 that desires to view an applicant's resume may employ image process module 79 of processor 50 to access a scanned copy of the resume stored in image storage module 94.

General Overview of How the System Operates

Customer Workflow

According to one embodiment of the invention, the present invention is primarily intended for customers to take primary control in managing the processes involved in employment staffing. In other words, after customer 10 has entered all of the desired information in customer preset data tables module 82 and customer data tables module 84, customer 10 can then employ additional features of the invention to perform a variety of tasks. In the embodiment shown herein, processor 50 is configured to generate interfaces via web server 62 and viewer display interface 64. The interfaces enable a customer to perform the following functions (although the present invention is not limited to these functions), several of which will be discussed in greater detail below: initiate and submit new orders for

positions desired to be filled; review entries and orders which have previously been initiated and submitted; review resumes of prospective candidates; manage customer profiles; create and modify employee evaluations; inquire into a pending order status and the details thereof; view a list of "excellent performers" and determine a date on which they are expected to be available; manage interview sessions and results; review supplier information and performance statistics; cancel or replace unfilled or unfulfilled orders; confirm the arrival of a new employee on the employee's first day of work, as well as evaluate the employee's first day performance; hire a temporary employee; calculate employee time and pay rates, request pay rate increases; approve or decline negotiated pay increases, etc.

Figure 8(a) is a diagram that illustrates the operation of customer process module 66. Figure 8(a) also describes various sets of interfaces which staffing management system 100 displays to a customer 10 for the purpose of enabling customer 10 to perform the function listed above. It is noted, however, that the present invention is not limited in scope to the functions described herein and that numerous other functions may be performed which fall within the contemplation of the present invention. In addition, it is noted that the interfaces shown are merely exemplary and that the present invention is not intended to be limited in scope to the interfaces which are shown herein. Some of the functions which customer 10 can perform are discussed in greater detail hereafter.

1. Prefulfillment of an Order for a Position to be Filled

Figure 8(a) shows set 110 of interfaces, which collectively enable customer 10 to perform all of the steps required before a position is filled. As shown in Figure 8(a), set 110 of interfaces comprise interfaces which enable a customer to place a new order for a

position to be filled, review an order which has been placed, place an order for another position to be filled, or else review the resumes of prospective candidates for a position. A sample of an interface which can be employed for placing an order is illustrated in Figure 9, which is discussed in detail below. A flowchart which illustrates the steps which are performed by a customer and by staffing management system 100 in order to place a new order for a position to be filled is shown in Figure 10, which is also discussed in detail below.

1(a). Figure 9 - Interface for New Order Initiation

Figure 9 displays interface 900, which is employed in order for customer 10 to initiate and submit a new order for a position to be filled, according to one embodiment of the invention. Thus, interface 900 exemplifies one interface that may belong to set 111 of interfaces. Interface 900 has various fields in which customer 10 enters data corresponding to the position desired to be filled. For instance, customer 10 enters in start date field 901 the date on which the position is desired to be filled, and enters in end date field 902 the date on which the position is anticipated to be completed. Similarly, customer 10 enters in start time field 903 the time of the day at which an employee is expected to report for work, and enters in end time field 904 the time at which the work day is completed. Alternatively, customer 10 may enter an anticipated duration in duration field 905, rather than entering an end date, and staffing management system 100 will automatically calculate an end date.

Other data which customer 10 may enter via interface 900 is the type of position desired to be filled in position field 910, the requirement of a resume in resume field 915, the quantity of positions to fill in quantity field 920, the annual compensation rate in annual

compensation field 925 or a preference for any or a particular supplier in supplier preference field 930. In addition, customer 10 may request a specific employee from a list of excellent performers in excellent performers field 935, by typing in a desired employee's first and last name, may indicate a list of reimbursable expenses in expenses field 940, and a reason for wanting to fill the position in reason field 945. Special instructions and additional comments may be entered by customer 10 in instruction field 950 and comment field 955 respectively. Finally, the order is submitted to staffing management system 100 when customer 10 clicks on submit field 960. Of course, the present invention is not limited in scope by the fields described above, and any type of fields for any type of relevant information may be employed.

Upon clicking submission field 960, the data which customer 10 has entered in each of the fields is transmitted for storage in a corresponding data storage location in transactional process module 88. For instance, the data which was entered by customer 10 in start date field 901 is stored in the "Start_Date" field of Orders table 1312 shown in Figure 6. Similarly, the data which was entered by customer 10 in position field 910 is stored in "Position_Title" field of Orders table 1312, "Position_Description" field of Orders table 1312 and "Position_Description" field of Customer Positions table 1120.

1(b). Figure 10 - Flowchart for New Order Initiation

The present invention is also configured, according to another embodiment of the invention, to perform other steps automatically upon the initiation of an order by a customer. These steps are illustrated in the flowchart of Figure 10. At step 1000, staffing management system 100 receives an order from customer 10. This order may be received via an interface

such as interface 900 displayed in Figure 9.

At step 1005, staffing management system 100 validates the data entered at step 1000. In one embodiment, staffing management system 100 performs this step by listing all of the data which customer 10 has entered in step 1000 and enables customer 10 to confirm that all of the information is correct, and prompting customer 10 to confirm the accuracy of the data entered. At step 1010, staffing management system 100 assigns an order number to the order. At step 1015, staffing management system 100 loads the order record into a transactional data table such as the one illustrated by Orders table 1312 of Figure 6. Preferably, each of the fields in Orders table 1312 is filled upon the submission of the order by customer 10.

At step 1020, staffing management system 100 updates the order records where applicable. Specifically, system 100 updates the other transactional data tables. For instance, system 100 updates orders requested suppliers table 1314 by storing therein the assigned order number in the "Order_Number" field. In addition, system 100 stores in the "Supplier_Number" field of table 1314 the supplier number corresponding to the supplier that was requested in supplier field 930 of interface 900. Thus, the data which is entered by customer 10 in each of the interfaces is employed to populate various predetermined data locations in the process modules, such as supplier process module 68 and transaction process module 88.

At step 1025, staffing management system 100 sends an e-mail confirmation to customer 10, confirming to the customer that the order is being processed. At step 1030,

staffing management system 100 sends an encapsulated e-mail message to other managers in customer 10. The encapsulated e-mail message is an e-mail which has a URL enabling the person receiving the e-mail to hyperlink to staffing management system 100 and approve the order which has been placed. The managers at customer 10 which receive the e-mail for approving the e-mail depend on the position of the manager in customer 10 that initiated the order. For instance, system 100 is configured, upon the placement of an order, to refer to customer order approval process table 1135 in order to ascertain whether the customer manager that placed the order is authorized to do so. In addition, system 100 is configured to refer to customer staff hierarchy table 1130 in order to ascertain which managers in customer 10 are also required to approve the order. In other words, the performance of this step automatically generates a serial routing of e-mails to each manager that is required to approve an order, regardless of which person at customer 10 initiates the order.

At step 1035, once an order has been approved, an e-mail is sent to a supplier requesting that the order be filled. If the order requested a specific supplier (i.e.- if supplier field 930 of interface 900 requests a specific supplier) the e-mail is sent to that supplier. At step 1040, staffing management system 100 monitors, from the time that the e-mail is sent to the supplier at step 1035, the amount of time that it takes the supplier to fill the order. If customer 10 has requested that resumes be sent in response to the order, the time to fill the order corresponds to the time at which the supplier responds to customer 10 with an e-mail of its own having a resume attached as a file thereto.

At step 1045, staffing management system 100 updates the data in the various process modules where appropriate. For instance, when an order has been approved by several managers at customer 10 at step 1035, system 100 updates order approval history

1316 by storing in the "Order_Number" field the corresponding order number, storing in the "Approved_By" field the name of the customer manager who approved the order, and storing in the "Electronic_Signature" field the digital signature verifying that correct manager actually did approve the order.

2. Manage Customer Profile

As also shown in Figure 8(a), set 130 of interfaces comprise interfaces which enable customer 10 to manage its customer profile (i.e.- the information which is stored in customer process module 66). As previously discussed, each customer has a master authority 11 which has sole authority to change or update data which is stored in customer process module 66. If data in customer process module 66 is required to be updated, master authority 11 enters his or her user ID number and password, which provides access to customer process module 66.

Changes to the customer profile may be desirable for several reasons. First, updating data in customer process module 66 may provide customer 10 with the ability to operate more efficiently. For instance, the "TTF Worst Value" field in customer registration table 1125 provides an indication of the maximum amount of time that customer 10 is willing to wait for a supplier to fill an order for a new position. If customer 10 enters a value of "3.00 hours" in the field, customer 10 may be forced to wait 3 hours before an order that has been placed at a first supplier is cancelled and an e-mail request is forwarded to an alternate supplier. By reducing the value of the "TTF Worst Value" to "1.00 hour", customer 10 will not be required to wait so long.

While the maintenance of the customer's profile may be performed solely for

providing improved efficiency (e.g.- reducing the worst acceptable value of a “time to fill” parameter), it may also enable a customer 10 to insure compliance with applicable labor and employment laws. Specifically, system 100 may also be configured to prompt a customer 10 to make changes to its profile in order to comply with a statutory rule or regulation. For instance, the “Long Term Threshold” field of Customer Registration table 1125 is a measurement of the number of hours at which a temporary employee of customer 10 becomes re-classified as a permanent employee, thus entitling the employee to receive health benefits, participate in the pension plan, etc. If the “Long Term Threshold” field has a default value of 1200 hours and a regulation is imposed on customer 10 forcing it to reduce this parameter to 1000 hours, system 100 is configured to prompt master authority 11 to make this change. Additionally, other fields such as “Warn Long Term Threshold” of Customer Registration table 1125 enables customer 10 to be warned at a predetermined point that an employee is approaching the threshold.

3. Manage Preferred Supplier List

As also shown in Figure 8(a), set 140 of interfaces comprise interfaces which enable customer 10 to manage the customer’s preferred supplier’s list. As previously discussed, customer 10 maintains in supplier process module 68 and in customer process module 66 information corresponding to those suppliers that customer 10 prefers to hire employees from. Again, each customer 10 has master authority 11 which has sole authority to change or update data which is stored in supplier process module 68.

Changes to data in supplier process module 68 may be required for many reasons. For instance, supplier insurance table 1225 comprises data corresponding to the insurance coverage which is maintained by a supplier. Customer 10 may require that

suppliers that provide employees maintain insurance coverage of a minimum value. If the "Base Amount" field of supplier insurance table 1225 has a value of which is less than the minimum amount required by customer 10, customer 10 may determine that it will not hire employees provided by that supplier. Customer 10 can also be advised by system controller 60 when the date stored in the "Coverage Expires" field of supplier insurance table 1225 has past or is upcoming, thereby enabling customer 10 to effectively enforce its supplier insurance requirements. Of course, these features are only several of many which may be employed by the present invention, which is not intended to be limited in scope by the features shown herein.

4. Create and Modify Employee Evaluations

As also shown in Figure 8(a), set 150 of interfaces comprise interfaces which enable customer 10 to create and modify employee evaluations. By employing this set of interfaces, a customer may choose a specific supplier's applicant and critique his or her performance. A sample of an interface for performing this function is illustrated in Figure 11, which is discussed in detail below.

4(a). Figure 11 - Employee Evaluations

As previously discussed, set 150 of interfaces is employed, according to one embodiment of the present invention, in order to enable customer 10 to create and modify employee evaluations. Figure 11 displays interface 1100, which is a sample of an interface for creating and modifying employee evaluations. Interface 1100 has various fields in which customer 10 enters data corresponding to an employee evaluation. For instance, customer 10 enters in evaluator name field 1101 the name of the person performing the evaluation, and enters in employee field 1102 the name of the employee who is being evaluated. Similarly,

customer 10 enters in position field 1103 the position of the person being evaluated, and enters in supplier field 1104 supplier (i.e.- the staffing service branch) which provided the employee.

Customer 10 next enters via interface 700 an evaluation of the employee in several performance categories. For instance, customer 10 may evaluate an employee's appearance in appearance evaluation field 1110 by entering a score. Similarly, customer 10 may evaluate an employee's efficiency in efficiency evaluation field 1115, or else may evaluate an employee's initiative in initiative evaluation field 1120. These performance categories are determined based upon Customer Performance Criteria table 1150, which is shown in Figure 4. Specifically, these performance categories, and the method of scoring the employee's performance, is derived from the "Performance Criteria Name" field, the "Best Value" field and the "Worst Value" field of Customer performance table 1150. Thus, the scope of the categories includes any criteria which customer 10 may desire to measure, and the present invention is not intended to be limited in scope by the categories explained herein.

Returning to interface 110 of Figure 11, customer 10 may employ query field 1125 to respond to the query "Would you hire this employee again?" Additional comments may be entered by customer 10 in comment field 1130. Finally, the evaluation is submitted to staffing management system 100 when customer 10 clicks on submit field 1160, and the data which has been entered by customer 10 is stored in evaluation tables 1332 and 1334 as shown in Figure 6. For instance, an evaluation table 1332 is created for each evaluation which is entered by customer 10. An evaluation detail table 1334 is created for each category which customer 10 elects to evaluate an applicant in. Data is stored in the tables when an

evaluation is submitted by customer 10, e.g.- data corresponding to the applicant is stored in the "Applicant SS Number" fields of tables 1332 and 1334, data corresponding to whether customer 10 would hire the applicant again is stored in the "Request Again" field of table 1332, and data corresponding to the applicant's score in a specific category is stored in the "Performance Criteria" field and the "Performance Evaluation" field of table 1334. Of course, the present invention is not limited in scope by the fields described above, and any type of fields for any type of relevant information may be employed.

5. Inquire on an Order Status

As also shown in Figure 8(a), set 160 of interfaces comprise interfaces which enable customer 10 to inquire on an order status. By employing this set of interfaces, a customer may select to view a history of the orders that have been placed by the customer or a list of pending orders and details corresponding thereto. A sample of an interface which displays a history of the orders that have been placed by the customer is illustrated in Figure 12, while a sample of an interface which displays a list of pending orders and details corresponding thereto is illustrated in Figure 18, both of which are discussed in detail below.

5(a). Figure 12 - Order History Interface

Figure 12 displays order history interface 1200, which is a sample of an interface for inquiring on an order status. Like the previously discussed interfaces, order history interface 1200 has various fields in which data is displayed to customer 10. For instance, staffing management system 100 displays in name field 1201 a list of the names of the employees who have filled positions in customer 10. This data may be retrieved by system 100 from transactional process module 88, or specifically, from orders table 1312 stored therein. As previously explained, orders table 1312 stores data corresponding to

orders which have been placed and/or filled. In addition, staffing management system 100 displays in start date field 1202 the dates on which each of the employees started their respective positions, and displays in end date field 1203 the dates on which each of the employees ended or are anticipated to end their respective positions. Similarly, staffing management system 100 displays in supplier field 1210 the supplier that provided the employee.

In addition, staffing management system 100 displays in position field 1215 the position held by the employee, while hours field 1220 displays the total number of hours that the employee has worked. Cost field 1225 displays a cost associated with the employee. In a preferred embodiment of the invention, each name in name field 1201 is linked to additional interfaces which displays, for each employee clicked on, the following data: weekly timesheets, invoices, performance data, extension requests, order cancellations, evaluation submissions, and hire and/or replace interfaces. Of course, these fields and connecting interfaces are merely some of many which may be employed to display an order history, and the present invention is not intended to be limited in scope by the fields shown herein. Irrespective of the fields which are displayed, the data is retrieved from orders table 1312 of transactional process module 88, or a data storage means configured to store the same data.

5(b). Figure 13 - Pending Orders

Figure 13, on the other hand, illustrates pending order interface 1300, which displays a list of pending orders (i.e.- orders that have been placed by customer 10 but which have not yet been filled) and details corresponding thereto, according to one embodiment of the invention. For instance, pending order interface 1300 comprises order number field

1301, which displays the order number that was assigned to the order when customer 10 placed the order via interface 900 of Figure 9.

In addition, pending order interface 1300 comprises position field 1305, which identifies the position for which the order was placed, and order date field 1310, which identifies the date on which customer 10 placed the order. In addition, pending order interface 1300 displays in start date field 1315 the date on which the position is expected to start, and displays in end date field 1320 the dates on which the position is anticipated to end. Similarly, pending order interface 1300 displays in start time field 1325 the time of the day at which the employee is expected to start, and in end time field 1330, the time of the day at which the employee is expected to end the workday.

The employee's annual rate of pay is displayed in annual payrate field 1335, while the name of the person who placed the order is displayed in requester field 1340. The person to whom the employee is instructed to report to is displayed in report field 1345, and the identification of the cost center for billing and invoicing purposes is displayed in cost center field 1350. Lastly, pending order interface 1300 displays in supplier field 1355 the supplier that was requested to provide the employee. As explained in connection with order history interface 1200, the data which is displayed in pending order interface 1300 is retrieved by system 100 from transactional process module 88, specifically orders table 1312 shown in Figure 6.

6. View List of "Excellent Performers"

As also shown in Figure 8(a), set 170 of interfaces comprise interfaces which enable customer 10 to view a list of "excellent performers" and to determine the dates on

which the “excellent performers” current position is anticipated to end. The list of excellent performers is determined from the employee evaluation forms which are created and submitted by other customers. By employing this set of interfaces, a customer may fill a position with a person who they can rely on to perform well. A sample of an interface which displays a list of excellent performers is illustrated in Figure 14, which is discussed in detail below.

6(a). Figure 14 - Excellent Performers Interface

Like the previously discussed interfaces, excellent performer interface 1400 illustrated in Figure 14 has various fields in which data is displayed to customer 10. For instance, staffing management system 100 displays in name field 1401 a list of the names of the employees who have received evaluations which meet a certain predetermined minimum performance criteria. This data may be retrieved by system 100 from transactional process module 88, or specifically, from evaluation and evaluation detail tables 1332 and 1334. The criteria for each customer for an “excellent performer” may, according to one embodiment, be stored in the “Min Acceptable Value” field of Customer Performance Criteria table 1150.

In addition, staffing management system 100 displays in start date field 1415 the dates on which each of the employees started their respective positions, and displays in end date field 1403 the dates on which each of the employees ended or are anticipated to end their respective positions. Similarly, staffing management system 100 displays in supplier field 1410 the supplier that provided the employee. This data may be retrieved by system 100 in transactional process module 88, specifically the “Start Date” field and the “End Date” field of orders table 1312, and the “Supplier Number” field of order requested suppliers table 1314, although other means for storing this data is contemplated by the

present invention.

In addition, staffing management system 100 displays in employer field 1402 the employee's last employer. Extension field 140 displays the extension number if the employee has had an extension applied to his or her last position. Rate field 1420 displays the employee's current payrate, while evaluation field 1425 displays the value of the employee's last performance evaluation. In a preferred embodiment of the invention, each name in name field 1401 is linked to additional interfaces which display, for each employee clicked on, additional employment data which may be of interest to an employer considering hiring such an "excellent performer". Of course, these fields and connecting interfaces are merely some of many which may be employed to display data corresponding to an excellent performer, and the present invention is not intended to be limited in scope by the fields shown herein.

Misc. Functions

Figure 8(a) shows numerous other functions which can be performed by customer 10 in order to manage an order for an employment position. One such function is the managing of the customer's interview sessions and the results thereof. For instance, as previously described in connection with the flowchart of Figure 10, customer 10 may elect, upon the receipt of a resume from supplier 20, to interview an applicant. System 100 is configured, according to one embodiment of the application, to provide an interface to customer 10 enabling customer 10 to display a list of pending interviews. Preferably, system 100 is also configured to display to customer 10, upon clicking on an applicant's name in list of pending interviews, data corresponding to the applicant, such as a copy of the applicant's resume (work skills, work history, etc.), information regarding the position to be filled, etc.

According to one embodiment of the invention, the present invention may also be employed to conduct an interview with an applicant. For instance, system 100 may be configured so as to provide a chat group interface to both customer 10 and the applicant at the designated time of the interview. In this embodiment, customer 10 may type interview questions on his or her interface, and the applicant may type responses thereto, both of which are displayed at both the customer's and the applicant terminals. Alternatively, either the applicant terminal, or both the customer and applicant terminals, is equipped with video cameras configured to send video data over the Internet. In this embodiment, the customer can view the applicant (and in the case of a video camera at the customer's terminal, the applicant can also view the customer), thereby enabling the customer to ascertain the applicant's appearance. It is noted that, although the applicant terminal may comprise a personal computer of the applicant, the present invention also contemplates that the applicant terminal may comprise a computer/video terminal located at a supplier's branch office, or a publicly accessible terminal or kiosk to which applicant is required to report.

Some of the functions which can be performed by customer 10 in order to manage an order for an employment position, according to the embodiment of the invention shown in Figure 8(a), include: reviewing supplier information and ascertaining the performance of a particular supplier, cancelling orders which have already been placed and/or filled, extending the length of time that a current employee will remain in a position, processing timesheets and calculating payrates employed therein, hire a temporary employee, etc. Each of these functions are performed via selectable interfaces which are generated by system 100 for display to customer 10. Each of these interfaces employ data which has been stored in process modules 66, 68, 88 and 70. Of course, the functions which are shown by

Figure 8(a) are merely representative of the functions which are contemplated by the present invention, which is not intended to be limited in scope thereby.

In addition to the functions described above, Figure 8(a) also shows several other functions which are discussed below. For instance, Figure 8(a) illustrates set of interfaces 210 which is employed, according to one embodiment of the invention, in order to enable customer 10 to confirm to staffing management system 100 that an employee has arrived on the employee's first day of work. Preferably, system 100 is configured to automatically send to customer 10, at a specified time, an e-mail message inquiring whether the new employee has reported for work by a predetermined time (e.g.- 9:15 a.m.). The date on which the "confirm arrival" e-mail message is to be sent to customer 10, and the predetermined time at which it is to be sent, is determined by system 100 by referring to transactional process module 88, specifically the "Start Date" field and the "Start Time" field of orders table 1312.

Upon receipt of the e-mail message by customer 10, customer 10 confirms that the employee has arrived punctually by returning an e-mail to staffing management system 100. The result of this confirmation e-mail message (e.g.- may be either a "Y" for an on-time arrival or a "N" for a not on-time arrival) is stored in the "OnTime First Day" field of orders table 1312.

Figure 8(a) also illustrates set of interfaces 220 which is employed, according to one embodiment of the invention, in order to enable customer 10 to confirm to staffing management system 100 that an employee has performed satisfactorily on the employee's first day of work. Preferably, system 100 is configured to automatically send to customer 10, at a specified time (e.g.- 3:00 p.m.), an e-mail message inquiring whether the new

employee has performed satisfactorily on the employee's first day. Again, the date on which the confirmation request e-mail is to be sent to customer 10, and the predetermined time at which it is to be sent, is determined by system 100 by referring to transactional process module 88, specifically the "Start Date" field and the "End Time" field of orders table 1312.

Upon receipt of the e-mail message by customer 10, customer 10 confirms that the employee has performed satisfactorily by returning an e-mail to staffing management system 100. The result of this confirmation e-mail message (e.g.- according to one embodiment, a "Y" for a satisfactory performance or a "N" for an unsatisfactory performance) is stored in the "Requirements Met" field of orders table 1312.

Supplier Workflow

Although, as previously mentioned, the present invention is primarily intended for customers to take primary control in managing the processes involved in employment staffing, the present invention also enables suppliers to perform various functions. In other words, after customer 10 or supplier 20 has entered all of the desired information in supplier data tables module 86, supplier 20 can then employ additional features of the invention to perform a variety of tasks. Again, processor 50 is configured to generate interfaces via web server 62 and viewer display interface 64. The interfaces enable a supplier to perform the following functions (although the present invention is not limited to these functions): process new orders for positions desired to be filled; review entries and orders which have previously been initiated and submitted; inquire into a pending order status and the details thereof; review resumes of prospective candidates; manage a supplier profile and perform an initial supplier setup; create and modify employee evaluations and view a list of "excellent performers"; and view and process data corresponding to customers and clients, etc.

Figure 8(b) is a diagram that illustrates some of the functions which can be performed by supplier process module 68, according to one embodiment of the invention. Figure 8(b) also describes various sets of interfaces which staffing management system 100 displays to a supplier 20 for the purpose of enabling supplier 20 to perform the functions listed above. It is noted, however, that the present invention is not limited in scope to the functions described herein and that numerous other functions may be performed which fall within the contemplation of the present invention.

Figure 8(b) shows set 310 of interfaces, which collectively enable supplier 20 to perform all of the steps required to fill a position. For instance, set 310 of interfaces may comprise interfaces via which a supplier performs prefulfillment processes. Specifically, when processor 50 receives an order from customer 10, (e.g.- which may be received via interface 900 of Figure 9), supplier process module 68 generates a hire request confirmation message to customer 10 that placed the order. In addition, supplier process module 68 may be configured to generate set 311 of interfaces, which enable a supplier 20 to fill a received order form, or to generate set 312 of interfaces, which provide a fill order form confirmation. As previously mentioned, these steps may also be accomplished via e-mail message which are automatically generated and transmitted by supplier process module 68 of processor 50. The manner in which e-mail messages are generated are further discussed below in connection with e-mail process module 72.

Figure 8(b) also shows set 313 of interfaces, which provides a payrate increase or decrease request notification, set 314 of interfaces which provides a message for accepting an increased or decreased payrate, and set 315 of interfaces by which a supplier 20 submits a negotiated bill rate in response.

As also shown in Figure 8(b), set 320 of interfaces comprise interfaces which enable supplier 20 to inquire on an order status. By employing this set of interfaces, a supplier may select to view a history of the orders that have been filled by the supplier or a list of pending orders and details corresponding thereto. Thus, supplier process module 68 may provide an interface similar to order history interface 1200, except that the order history will include data corresponding to the orders that have been filled by supplier 20 rather than data corresponding to orders which have been placed by customer 10. In addition, supplier process module 68 may provide an interface similar to pending order history interface 1300, except that the pending orders will include data corresponding to orders that supplier 20 is still required to fill, rather than data corresponding to orders that customer 10 is waiting to be filled.

As also shown in Figure 8(b), set 330 and 331 of interfaces comprise interfaces which enable supplier 20 to review information corresponding to applicants and to view a list of "excellent performers", respectively. As previously discussed, the list of excellent performers is determined from the employee evaluation forms which are created and submitted by customers. By employing these sets of interfaces, a supplier can select the best candidates to fill a position.

As also shown in Figure 8(b), set 350 of interfaces comprise interfaces which enable supplier 20 to manage its supplier profile (i.e.- the information which is stored in supplier data tables module 86). Set 351 of interfaces, on the other hand, comprise interfaces which enable supplier 20 to perform an initial supplier setup, such as entering the data which is stored in supplier data tables module 86.

Applicant Workflow

The present invention also enables applicants 30 to perform various functions. In other words, after customer 10 or supplier 20 has entered all of the desired information in the data tables module of database 80, applicant 30 can then employ additional features of the invention to perform a variety of tasks. Again, processor 50 is configured to generate interfaces via web server 62 and viewer display interface 64. The interfaces enable an applicant to perform the following functions (although the present invention is not limited to these functions): view a summary of a position or positions which are currently held by the applicant; view details of a particular currently-held position or positions; view a summary of a position or positions which have been completed by the applicant; view details of a particular completed position or positions.

Figure 8© is a diagram that illustrates some of the functions which can be performed by applicant process module 70, according to one embodiment of the invention. Figure 8© also describes various sets of interfaces which staffing management system 100 displays to a supplier 20 for the purpose of enabling applicant 30 to perform the functions listed above. It is noted, however, that the present invention is not limited in scope to the functions described herein and that numerous other functions may be performed which fall within the contemplation of the present invention.

Figure 8© shows set 410 of interfaces, which collectively enable supplier 20 to view a summary of a position or positions which are currently held by the applicant. Figure 8© also shows set 411 of interfaces, which enable applicant 30 to view details of a particular currently-held position or positions, set 412 of interfaces, which enable applicant 30 to view a summary of a position or positions which have been completed by the applicant,

and set 413 of interfaces, which enable applicant 30 to view details of a particular completed position or positions. Set of interfaces 430 provides an applicant with a list of interviews which the applicant has participated in or which the applicant has scheduled for a future date, and details pertaining thereto.

In addition, according to one embodiment of the present invention, applicant process module 70 of processor 50 is also configured to provide interfaces whereby an applicant can enter timesheet data in order to record the hours that have been worked. Figure 15 illustrates timesheet interface 1500, which is configured to enable an employee to enter timesheet data. Timesheet interface 1500 comprises date field 1505, which indicates, in the embodiment shown, the last day of the week for which time is being entered. Interface 1500 also comprises continuing field 1510, in which the employee indicates whether he or she will continue working in the position after the date entered in field 1505. Day field 1515 comprises a list of the days of the week. By clicking on one of the days displayed in field 1515, an employee can then enter the time that employee started work in start time field 1660 and the time that the employee ended work in end time field 1665. Once the employee has entered his or her time for each appropriate day in day field 1515, the employee clicks on submission field 1530, and the data entered is stored by system 100 in transactional process module 88, specifically various data storage fields of timesheet table 1336, as shown in Figure 6.

According to a preferred embodiment of the invention, timesheets which are submitted by an employee are required to be approved. Advantageously, system 100 is configured such that submitted time sheet are automatically forwarded by system controller 60 as e-mail messages to the manager at customer 10 responsible for approving the

timesheet. If approved by customer 10, the approval data is stored in the "Date Approved" field and the "Approver Electronic Signature" field of time sheet table 1336.

In another preferred embodiment of the invention, system 100 is configured to employ customer staff hierarchy table 1130 and customer order approval process table 1135 in order to route additional e-mails to other manager at customer 10 that have the authority to approve an employee's timesheet. Thus, if the designated approver does not respond within a predetermined maximum amount of time, a second e-mail is sent until the employee's timesheet is approved.

Of course, there may exist circumstances in which a timesheet is disapproved. In this case, system 100 is configured to store data corresponding to the rejection of the timesheet in time sheet rejection table 1338. Time sheet rejection table 1338 comprises "Time sheet number" field, in which an assigned identifier of the time sheet is stored, a "Time sheet rejection reason" field, in which the reason for the disapproval is stored, as well as other fields for storing data corresponding to the date and time that the timesheet was disapproved and by whom.

E-Mail Processing

As previously discussed, system 100 of the present invention, according to one embodiment thereof, employs automatically generated and transmitted e-mail messages to customers 10 and suppliers 20 to facilitate various processes. For instance, e-mail process module of processor 50 may perform functions as illustrated in the diagram of Figure 8(d). For instance, Figure 8(d) illustrates set 510, which processes e-mail messages to be provided during the hiring of an applicant.

For instance, e-mail process module 72 generates an e-mail confirmation message to customer 10 to confirm that a placed order has been received by a supplier, as discussed in connection with step 1025 of the flowchart in Figure 10. In addition, e-mail process module 72 generates an e-mail message to other personnel in customer 10's organization enabling the approval of an order which has been placed, as discussed in connection with step 1030 of the flowchart in Figure 10. Figure 8(d) also illustrates set 520 of interfaces, which processes e-mail messages corresponding to the interviewing process, set 530, which processes e-mail messages corresponding to payrate changes, and set 540, which processes e-mail messages corresponding to orders which have been placed.

Furthermore, e-mail process module 72 may also employ an job alarm e-mail processor 550, which processes data from job alarm data tables module 92 in database 80 and generates e-mail when deadlines and milestones stored in job alarm module 92 are reached or are about to be reached. Thus, job alarm e-mail processor 550 may, as in the embodiment shown, comprise insurance deadline e-mail processor 551, which processes e-mail messages to provide a warning or notification that insurance coverage is expiring, end of contract e-mail processor 552, which processes e-mail messages to provide a warning or notification that an employment contract is ending, benefit qualification e-mail processor 553, which processes e-mail messages to provide a warning or notification that a milestone has been reached for an applicant qualifying him or her to certain employment benefits, and full-time qualification e-mail processor 551, which processes e-mail messages to provide a warning or notification that a milestone has been reached for an applicant qualifying him or her as a full-time employee. Of course, these are merely several of many processes that can be performed by e-mail process module 72 of processor 50.

Generating Billings, Invoices, etc.

According to still another embodiment of the invention, invoice process module 74 of processor 50 may be configured to generate and process billings, invoices, payrolls and other financial and accounting procedures which would ordinarily be required to be performed manually. For instance, in one embodiment, time sheet data which is submitted by an applicant and approved by customer 10 is automatically stored in transactional process module 88, specifically a passthru table 1344, in addition to being stored in the other data tables discussed above. An invoice processing module 74 of system controller 60 is configured to assign an invoice number to the data corresponding to the timesheet (or else assigns an invoice number to data corresponding to a batch of timesheets). Invoice processing module 74 of system controller 60 then stores the invoice number in the "Invoice Number" field of passthru table 1344, along with the data corresponding to the approved timesheets. At a predetermined time, invoice processing module 74 is configured to generate an invoice corresponding to the data which is stored in passthru table 1344.

The invoice, according to one embodiment of the invention, is transmitted via Internet to suppliers and customers. Employing the data therein, customers and suppliers may also communicate with a bank or financial institution 40 in order to facilitate the electronic transfer of funds in payment of an invoice. In addition, invoice process module 74 may also be configured to employ data from passthru table 1344 along with data previously stored in transactional data tables module 88 (such as data stored in applicant documentation table 1342) to automatically perform wire transfers or direct deposit of funds from a bank 40 to an applicant. In other words, invoice process module 74 may employ e-mail process module 72 to automatically generate an instruction message via Internet to bank 40 to transfer an amount corresponding to an invoice (e.g.- as shown in the "Invoice Total"

field of passthru table 1344) to an applicant's account (e.g.- as shown in the "Bank Account Number" and "Bank Route Number" fields in applicant documentation table 1342).

Invoice process module 74 may also be employed to perform other accounting-type functions, in accordance with various embodiment of the invention. For instance, invoice process module 74 may be employed to generate, process and store general accounting data corresponding to the transactions processed by the system. Thus, invoice process module 74 may be employed to track payments from a customer to a supplier, payments from a supplier to an applicant, as well as federal and state taxes that have been withheld, Social Security taxes, etc. This data may also be employed, according to one embodiment, to generate end of the year reports, W-2 forms for applicants, etc.

According to one embodiment of the invention, invoice process module is configured to perform the steps that are shown in the flowchart of Figure 8(e). Generally, the process which is shown in Figure 8(e) comprises capturing and validating employee time data, forwarding the data to the customer for review and approval, updating employee records, generating invoice data and generating gross wage data for suppliers. For instance, at step 802, applicant 30 authenticates time sheet data. At step 804, processor 50 opens a time sheet record such as time sheet table 1336 of transactional data table module 88. At step 806, processor 50 access data in order table 1312 of transactional data table module 88. At step 808, processor retrieves field data corresponding to a timesheet, and at step 810, validates the "week end" date which the applicant entered in date field 1505 of timesheet interface 1500 of Figure 15.

At step 812, processor returns to step 808 if the week and date entered by the

applicant is invalid, or else proceeds to step 814. At step 814, processor 50 determines if the hours data entered by the applicant in start time field 1520 and end time field 1525 is valid. At step 816, processor returns to step 808 if the hours data entered by the applicant is invalid, or else proceeds to step 818 and saves the record. At step 820, the timesheet is submitted to customer 10 for approval.

At step 822, customer 10 receives the timesheet data for the purpose of confirming the data therein. At step 824, customer 10 determines whether to confirm the time or not. If not, processor 50 proceeds to step 826 and sends an e-mail message to supplier advising supplier 20 that the timesheet data has not been confirmed. If customer 10 does confirm the time at step 824, processor 50 proceeds to step 828 and updates passthru table 1344 of transactional data table module 88.

At step 830, processor 50 updates data tables in database 80 which correspond to the applicant's work records. At step 832, invoice process module 74 of processor 50 creates an invoice. At step 834, invoice process module 74 of processor 50 creates a gross payroll. At step 836, e-mail process module 72 generates and transmits via Internet an e-mail message to supplier 20 comprising data corresponding to gross wages. At step 838, e-mail process module 72 generates and transmits via Internet an e-mail message to customer 10 comprising data corresponding to the invoice that was created at step 832.

Auditability

As illustrated by the discussion of the features of the present invention so far, system 100 is configured to store data corresponding to each and every transaction which occurs. For instance, data corresponding to an order which has been placed is stored in order

table 1312 of transactional data table module 88, while data corresponding to each e-mail that was generated and transmitted as a result of the order being placed is stored in various other data locations in the process modules. Similarly, data corresponding to an interview which has been conducted, or a hire which has been made, or a timesheet which has been submitted is stored in predetermined data locations in database 80.

According to one embodiment, system 100 is fully auditable. In other words, system 100 is preferably configured such that an interested party, given appropriate security access, can review all of the orders that have been placed and filled, all of the e-mail messages which have been generated and transmitted, etc. Furthermore, the present invention is also preferably configured to permit a customer 10 to review statistical information pertaining to an employee or a supplier. For instance, in one embodiment, system 100 is configured to generate a report or summary to customer 10 corresponding to the average amount of time that a particular supplier required to fill the orders that were sent to it. In another embodiment, system 100 is configured to generate a report or summary to customer 10 corresponding to the average evaluation scores of employees that have been provided by a particular supplier. Of course, these examples are merely two of many performance metrics or statistics which can be generated by system 100 by employing the data which has been stored in process modules 66 through 70. The present invention is not intended to be limited in scope to those performance metrics and statistics which have been discussed herein.

Knowledge Base

According to another embodiment of the invention, still further functions may be performed by system 100. For instance, in a preferred embodiment, system 100 is

configured to determine the skills of an applicant which are most likely to result in an applicant receiving positive performance evaluations. One means by which system 100 is configured to perform this is by compiling data corresponding to employees in a particular position which have received excellent performance evaluations, and then determining which skills are possessed by each such employee.

By way of example, system 100 may be configured, according to one embodiment, to provide an applicant or a supplier with an interface for entering data corresponding to an applicant's education (for storage in Applicant Education table 1415 of Applicant data tables module 90), an applicant's work history (for storage in Applicant Work History table 1420 of Applicant data tables module 90), and an applicant's skills (for storage in Applicant Skills table 1425 of Applicant data tables module 90). In order to determine the skills that a typical "excellent performer" in a given position has, system 100 compiles data corresponding to excellent evaluations by referring to evaluation and evaluation details tables 1332 and 1334, limits that data to excellent performers in a specifiable position by referring to the "Position Title" field in orders table 1312, and comparing the skills possessed by those employees by referring to applicant skills table 1425. Of course, the method described to determine the skills typically possessed by an excellent performer is merely one possible method that the data stored in the data storage modules may be employed to perform the same function. Furthermore, the present invention contemplates that system 100 may be configured to perform many other data mining functions, and is not intended to be limited in scope to those functions described herein.

Other Products and Services

As discussed previously, although the discussion above describes system 100 as

employed to manage an order for an employment position to be filled, the present invention can be employed, according to various embodiments of the invention, to order products and service other than employment staffing services. For instance, in one embodiment, system 100 is configured such that an order which is transmitted by customer 10 to a supplier is an order for a product, such as flowers, gifts, travel tickets, etc. The present invention's use of e-mail messages to various managers in customer 10 may also be employed to approve the purchase of said products. Furthermore, the system's measurement of the amount of time which a supplier takes to fill an order, the system's transmission of the order to a second supplier if a first supplier does not respond in a predetermined maximum amount of time, etc. can also be implemented for the ordering of said products.

In addition, the present invention can also be employed, according to various embodiments of the invention, to order other types of services. For instance, in one embodiment, system 100 is configured such that an order which is transmitted by customer 10 to a supplier is an order for limousine services, travel arrangements, etc. Again, the present invention's use of automatically generated and transmitted e-mail messages to various managers in customer 10 according to a customer hierarchy, the system's measurement of the amount of time which a supplier takes to fill an order, the system's transmission of the order to a second supplier if a first supplier does not respond in a predetermined maximum amount of time, etc., may also be implemented for the ordering of said services.

While only certain features of the invention have been illustrated and described herein, many modifications, substitutions, changes or equivalents will now occur to those skilled in the art. It is therefore, to be understood that the appended claims are intended

to cover all such modifications and changes that fall within the true spirit of the invention.

We claim:

1. An on-line system (100) for managing an order, said system comprising:
a system controller (60) accessible to a customer (10) and to a supplier (20) via Internet (45), said system controller configured to maintain an addressable web site for providing an interface to said customer, said interface configured to prompt for and to receive from said customer data corresponding to said order, said system controller further configured to transmit to said supplier said data corresponding to said order.
2. The system (100) according to claim 1, wherein said order comprises an order to fill an employment position.
3. The system (100) according to claim 1, wherein said data corresponding to said order is an e-mail message to said supplier.
4. The system (100) according to claim 1, wherein said system controller (60) is further configured to transmit said data corresponding to said order to a second supplier (20) when an amount of time required for said first supplier to fill said order exceeds a predetermined maximum.
5. The system (100) according to claim 1, wherein said system controller (60) is accessible to a plurality of managers (11) at said customer.
6. The system (100) according to claim 5, wherein said plurality of managers (11) comprises a customer hierarchy.

7. The system (100) according to claim 6, wherein said system further comprises a customer data storage means (84) configured to store therein data corresponding to said customer hierarchy.

8. The system (100) according to claim 1, wherein said system controller (60) is further configured such that, prior to transmitting said data corresponding to said order to said supplier, said system controller *generates and transmits* a request for approval of said order to at least one other of said plurality of managers according to said customer hierarchy.

9. The system (100) according to claim 7, wherein said system controller (60) is further configured to receive from said supplier data corresponding to said order.

10. The system (100) according to claim 9, wherein said data received from said supplier is an e-mail message.

11. The system (100) according to claim 10, wherein said e-mail message from said supplier comprises a resume.

12. The system (100) according to claim 11, wherein said system controller (60) is configured, upon receipt of said e-mail message comprising a resume, to generate and provide said customer with an interface for hiring an applicant corresponding to said resume, requesting an interview with said applicant and rejecting said applicant.

13. The system (100) according to claim 12, wherein, when said

customer selects to hire said applicant, said system controller (60) is configured to generate and transmit a request for approval of said hire to at least one of said plurality of managers according to said customer hierarchy.

14. The system (100) according to claim 13, wherein said system controller (60) is further accessible to said hired applicant.

15. The system (100) according to claim 14, wherein said system controller (60) is further configured to provide an interface to said applicant to conduct an interview with said customer.

16. The system (100) according to claim 15, wherein said interface for conducting said interview comprises an on-line chat group.

17. The system (100) according to claim 15, wherein said interface for conducting said interview comprises a on-line video data stream.

18. The system (100) according to claim 14, wherein said system controller (60) is further configured to provide an interface to said applicant for entering a timesheet.

19. The system (100) according to claim 18, wherein said system controller (60) is further configured to transmit said timesheet to said customer for approval.

20. The system (100) according to claim 19, wherein said system

controller (60) is further configured to determine an amount of time required for said customer to approve said timesheet.

21. The system (100) according to claim 20, wherein said system controller (60) is further configured to transmit said timesheet for approval to at least one other manager at said customer when an amount of time for said customer to approve said timesheet exceeds a predetermined maximum value.

22. The system (100) according to claim 21, wherein said system further comprises a transactional data storage means (88), said system controller (60) configured to store data corresponding to an order in said transactional data storage means.

23. The system (100) according to claim 22, wherein said data stored in said transactional data storage means (88) comprises data corresponding to said approval e-mails.

24. A method for managing an order on-line, said method comprising the steps of:

generating at a customer terminal (10) a first message comprising data corresponding to an order;

transmitting said message via Internet (45) from said customer terminal to a system controller (60) configured to maintain an addressable web site for providing an interface to said customer;

transmitting said message from said system controller to a supplier terminal (20), said supplier terminal coupled to said system controller via Internet.

25. The method according to claim 24, wherein said step of generating said first order message further comprises generating a request to fill an employment position.

26. The method according to claim 24, wherein said step of generating said first order message further comprises generating an e-mail message to said supplier.

27. The method according to claim 24, further comprising the step of transmitting said data corresponding to said order to a second supplier when an amount of time required for said first supplier to fill said order exceeds a predetermined maximum.

28. The method according to claim 24, further comprising the step of a plurality of managers (11) at said customer accessing said system controller (60).

29. The method according to claim 28, further comprising the step of arranging said plurality of managers into a customer hierarchy.

30. The method according to claim 29, further comprising the step of storing in a customer data storage means (84) data corresponding to said customer hierarchy.

31. The method according to claim 30, further comprising the step of, prior to transmitting said data corresponding to said order to said supplier, generating and transmitting a request for approval of said order to at least one other of said plurality of managers according to said customer hierarchy.

32. The method according to claim 31, further comprising the step of receiving from said supplier data corresponding to said order.

33. The method according to claim 32, wherein said step of receiving data from said supplier comprises receiving an e-mail message.

34. The method according to claim 33, wherein said step of receiving an e-mail message from said supplier further comprises receiving a resume.

35. The method according to claim 34, further comprising the step of, upon receipt of said e-mail message comprising a resume, generating and providing said customer with an interface for hiring an applicant corresponding to said resume, requesting an interview with said applicant and rejecting said applicant.

36. The method according to claim 35, further comprising the step of, when said customer selects to hire said applicant, generating and transmitting a request for approval of said hire to at least one of said plurality of managers according to said customer hierarchy.

37. The method according to claim 36, further comprising the step of an applicant accessing said system controller (60) via Internet (45).

38. The method according to claim 37, further comprising the step of providing an interface to said applicant to conduct an interview with said customer.

39. The method according to claim 38, further comprising the step of conducting said interview comprises an on-line chat group.

40. The method according to claim 38, further comprising the step of conducting said interview comprises a on-line video data stream.

41. The method according to claim 40, further comprising the step of providing an interface to said applicant for entering a timesheet.

42. The method according to claim 41, further comprising the step of transmitting said timesheet to said customer for approval.

43. The method according to claim 42, further comprising the step of determining an amount of time required for said customer to approve said timesheet.

44. The method according to claim 43, further comprising the step of transmitting said timesheet for approval to at least one other manager at said customer when an amount of time for said customer to approve said timesheet exceeds a predetermined maximum value.

45. The method according to claim 44, further comprising the step of storing in said transactional data storage means (88) data corresponding to said order.

46. The method according to claim 45, wherein said step of storing in said transactional data storage means (88) data corresponding to said order further comprises

storing data corresponding to said approval e-mails.

47. An on-line, web-based workflow and messaging system (100) for managing an order, said system comprising:

a system controller (60) accessible to a customer (10) and to a supplier (20) via Internet (45), said system controller configured to maintain an addressable web site for providing an interface to said customer, said interface configured to prompt for and to receive from said customer data corresponding to said order, said system controller further configured to transmit to said supplier said data corresponding to said order, said system controller further configured to monitor an amount of time required for said supplier to fill said order.

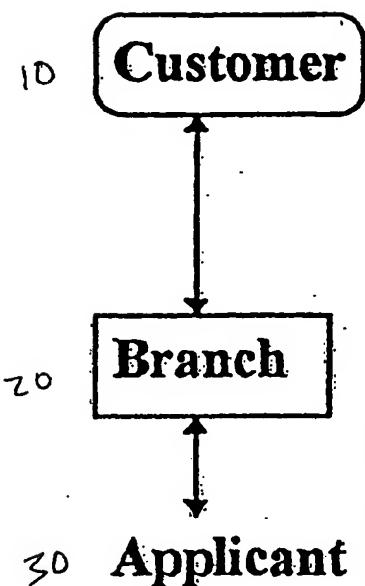


Figure 1 (Prior Art)

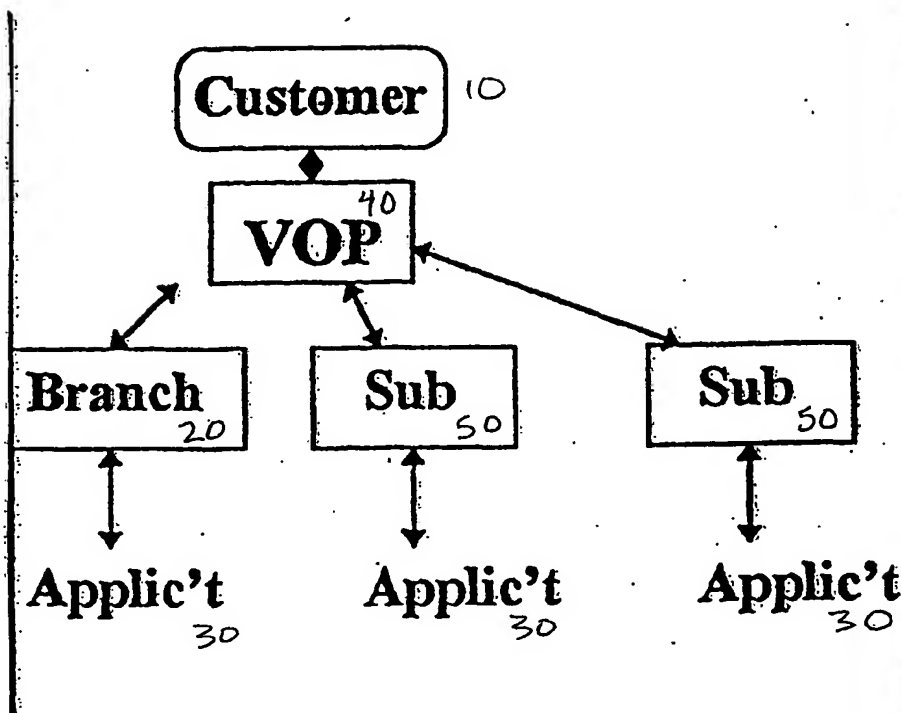


Figure 2
(Prior Art)

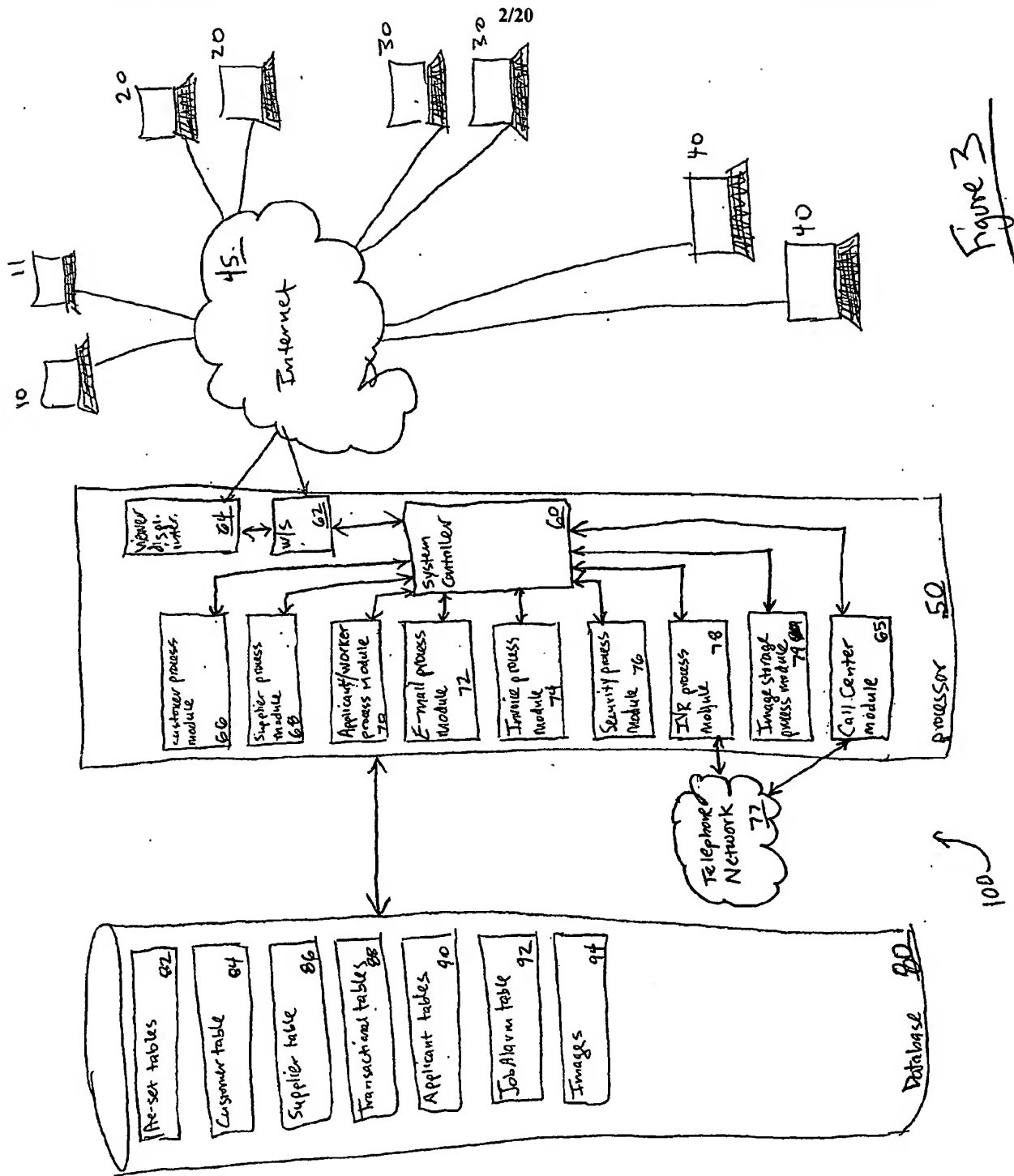


Figure 4(a) Customer Staff Directory - Upload File Layout 1110

1100

Field Name	1102	Type/Length	1104	Comment	1106	Default Value	1108
Last Name		Char(40)		Required			
First Name		Char(40)		Required			
Last 4 Chars of SSN#		Char(4)		Required			
Title		Char(40)		Required			
Address1		Char(40)					
Address2		Char(40)					
Address3		Char(40)					
City		Char(40)					
State		Char(2)					
Zip		Char(11)					
Country		Char(2)				US	
Phone		Char(15)					
Fax		Char(15)					
Cell		Char(15)					
FAX		Char(15)					
E-Mail Address		Char(40)					
Cost Center		Char(40)					

Chart of Accounts - Upload File Layout 1115

Field Name	Type/Length	Comment	Default Value
Section	Char(40)	Required	
Subsection	Char(40)	Required	
Division	Char(40)	Required	
Department	Char(40)	Required	
Area	Char(40)	Required	
Cost Center	Char(40)	Required	

Customer Positions - Upload File Layout 1120

Field Name	Type/Length	Comment	Default Value
Position Name	Char(40)	Required	
Position Class	Char(40)	Required	
Position Group	Char(40)	Required	
Position Description	Memo	Required	
DOT Number	Numeric(6)	Optional	

Figure 4(a)

Customer Registration - 1 record required per Customer 115 Figure 7(b)

Field Name	Type/Length	Comment	Default Value
Address1	Char(40)	Required	
Address2	Char(40)	Optional	
Address3	Char(40)	Optional	
Customer City	Char(40)	Required	
Customer State	Char(2)	Required	
Customer Zip	Char(11)	Required	
Customer Country	Char(3)	Required	
Customer Directions	Memo	Optional	
Customer Unit	Char(40)	Optional	
Long Term Threshold	Numeric(6)	Required	1200
Notify Long Term	Char(1) - Y/N Flag	Required	Y
Warm Long Term Threshold	Numeric(6)	Required	1000
FTE Threshold	Numeric(8,2)	Required	35.0
Credit Limit	Numeric(8,2)	Required	0 (unlimited credit)
SIC Code 1	Char(3)	Optional	
SIC Code 2	Char(3)	Optional	
NAICS Code 1	Char(6)	Optional	
NAICS Code 2	Char(6)	Optional	
Cost Normal End Hr	Time	Required	9:00 AM
Cost Normal End Hr	Time	Required	5:00 PM
Differential on Dry Positions	Char(1) - Y/N Flag	Required	N
Breake Shift Start	Time	Required	5:00 PM
Night Shift Start	Time	Required	12:00 AM
Weekend Start Day	Char(12)	Required	Sunday
Weekend End Day	Char(12)	Required	Saturday
Weekend Day Start Time	Time	Required	9:00 AM
Weekend Day End Time	Time	Required	5:00 PM
Weekend Eve Start Time	Time	Required	5:00 PM
Weekend Night Start Time	Time	Required	12:00 AM
Default Week Ending Day	Char(12)	Required	Sunday
Base Pay Differential	Numeric(8,2)	Optional	
Night Pay Differential	Numeric(8,2)	Optional	
Weekend Day Diff	Numeric(8,2)	Optional	
Weekend Eve Diff	Numeric(8,2)	Optional	
OT Differential	Numeric(8,2)	Optional	1.5
Excellent Performer Criteria	Char(60)	Optional	4.0
TTP Best Value	Numeric(8,2)	Optional	5.0
TTP Worst Value	Numeric(8,2)	Optional	1.0
Value Given to Unrated Criteria	Numeric(8,2)	Optional	30 minutes
Minimum Acceptable Performance	Numeric(8,2)	Optional	3.5

Customer Staff Hierarchy - Customer records required to support Order Approval 113 D

Field Name	Type/Length	Comment	Default Value
Position ID	Char(15)	Required	
Position Title	Char(40)	Required	
Parent Title	Char(40)	Required	
Root Title	Char(40)	Required	
Customer ID	Char(9)	Required	

Customer Order Approval Process - Records required to support Order Approval 113 S

Field Name	Type/Length	Comment	Default Value
Approver	Char(8)	Required	
Customer Dir Num	Char(8)	Required	
Supplier Num	Char(8)	Required	
Cost Center	Char(40)	Required	
Customer ID	Char(9)	Required	

Field Name	Type/Length	Comment	Default Value
Rate Plan	Char(40)	Required	
Rate Schedule Pricing	Numeric(8,2)	Required	
Rate Schedule Basis	Char(40)	Required	
User Can Change Rate on Each Order	Char(1) - Y/N	Required	

Customer Requirements - Customer records optional in this table 114 S

Field Name	Type/Length	Comment	Default Value
Requirement Type	Char(40)	Optional	
Requirement Name	Char(40)	Optional	
Rate Amount	Numeric(8,2)	Optional	

Customer Performance Criteria - 5 Criteria will be pre-loaded for each Customer. Customer can edit these and add additional criteria. 115 0

Field Name	Type/Length	Comment	Default Value
Performance Criteria Name	Char(40)	Required	
Best Value	Numeric(8,2)	Required	
Worst Value	Numeric(8,2)	Required	
Min Acceptable Value	Numeric(8,2)	Required	

Record #	Performance Criteria Name	Best Value	Worst Value	Minimum Acceptable Value
1	Skill	5.0	1.0	3.5
2	Initiative	5.0	1.0	3.5
3	Appearance	5.0	1.0	3.5
4	Attendance	5.0	1.0	3.5
5	Demerits	5.0	1.0	3.5

Time To Fill Criteria - 5 default records will be provided for each Customer. Customer can edit these and add additional records. 115 S

Field Name	Type/Length	Comment	Default Value
Performance Equation	Char(40)	Required	
Rating Assigned	Numeric(8,2)	Required	

Record #	Performance Equation	Rating Assigned
1	< 5	5.0
2	> 5 but < 50	4.0
3	> 50 but < 45	3.0
4	> 45 but < 60	2.0
5	> 60	1.0

Customer Reasons - Records in this table are optional. Example records are described below. Customers will generally provide their own Reason table data. 116 0

Field Name	Type/Length	Comment	Default Value
Reason Class	Char(40)	Required	
Reason Group	Char(40)	Required	
Reason Name	Char(40)	Required	

Record #	Reason Class	Reason Group	Reason Name
1	Full-Time Temporary Worker	Vacancy	Employee Departure
2	Full-Time Temporary Worker	Attendance	Vacation
3	Part-Time Temporary Worker	Business Expansion	Illness
4	Part-Time Temporary Worker	Business Expansion	Sales Campaign Support

Customer Documentation - Data provided by Customer to enable Electronic Funds Transfer. 116 S

Field Name	Type/Length	Comment	Default Value
Voided Check	Char(40)	Required	
Bank Account #	Char(40)	Required	

Fig 120 Suppliers Data provided by the Customer pertaining to each of their Suppliers. 120

Field Name	Type/Length	Comment	Default Value
Supplier Root	Char(2)	Required	
Supplier Parent	Char(2)	Required	
Supplier Number	Char(9)	System Generated	
Supplier Name	Char(40)	Required	
Address1	Char(40)	Required	
Address2	Char(40)	Optional	
Address3	Char(40)	Optional	
Supplier City	Char(40)	Required	
Supplier State	Char(2)	Required	
Supplier Zip	Char(11)	Required	
Supplier Country	Char(2)	Required	
Rate Plan	Char(40)	Required	
Rate Percent	Numeric(8,2)	Required	
Preferred	Char(1) - Y/N Flag	Required	
Instructions	Memo	Optional	
Cost Center	Char(40)	Required	
Payroll Number	Char(40)	Required	
Main Phone Number	Char(10)	Required	

Supplier Directory - Data provided by the Customer pertaining to each of their Suppliers/ Employees 121

Field Name	Type/Length	Comment	Default Value
Supplier Employee #	Char(15)	Optional	
Last Name	Char(40)	Required	
First Name	Char(40)	Required	
Title	Char(40)	Optional	
Address1	Char(40)	Required	
Address2	Char(40)	Optional	
Address3	Char(40)	Optional	
City	Char(40)	Required	
State	Char(2)	Required	
Zip	Char(11)	Required	
Country	Char(2)	Required	
Phone	Char(15)	Required	
Pager	Char(15)	Optional	
Cell	Char(15)	Optional	

PAX	Memo	Optional	
Section	Char(40)	Optional	
Sector	Char(40)	Optional	
Division	Char(10)	Optional	
Department		Optional	
Area		Optional	
Directions		Optional	
Instructions		Optional	
Misc1		Optional	
Misc2		Optional	

Supplier Rates - Negotiated with Customer, per Position. 122

Field Name	Type/Length	Comment	Default Value
Supplier Number		Required	
Position Title		Required	
Pay Rate		Required	
Bill Rate		Required	
Temp To Hire			
TTM Fee Percent			
TTM Interval			
TTM Fee Dollars			
Full Time			
FT Fee Percent			
FT Interval			
FT Fee Dollars			
Consultants			
Per Diem			
Project			
Hourly			
Rate			
Temp Guarantee			
FT Guarantee			
Consult Guarantee			
TTM Guarantee			

Supplier Insurances - To meet specific Customer requirements. 123

Field Name	Type/Length	Comment	Default Value
Customer Number		Required	
Customer Requirement		Required	
Base Amount		Required	
Coverage Expires (Date/Time)		Required	
Certificate			

Transactional Table Definitions

Orders 1312

Column Name	Description	Data Type
*Order Number		Char(40)
*Customer Number		Char(15)
*Order Type		Char(15)
*Requested By	Link to Customer ID in Directory table	Char(15)
*Position Title		Char(40)
*Position Description		Char(40)
*Comments		Memo
*Start Date		Date
*End Date		Date
*Reason		Char(40)
*Instructions		Char(40)
*Cost Center		Char(40)
*Start Time		Char(40)
*End Time		Time
*Annual Compensation		Time
*Bill Rate		Numeric(8,2)
*Pay Rate		Numeric(8,2)
*Order Date		Numeric(8,2)
*Order Status		Date/Time
*Time To Fill		Char(15)
*Winning Supplier Number		Numeric(12)
*Applicant SS Number		Char(15)
*Report To	Link to Customer ID	Char(15)
*Hire Date	Null if not hired	Date
*Full Time		Char(15)
*Hire Comment		Char(40)
*Interval	Default = Hourly	Memo
*Expense Reimbursable		Char(15)
*Supplier Order Number		Char(15)
*Approved Date		Char(40)
*Revenue Required		Date
*On Time Friday		Char(1)
*Regulations Met		Char(1)
*Supplier Rejection Reason	First day 3pm check	Char(1)

Order Requested Suppliers 1314

Column Name	Description	Data Type
*Order Number		Char(15)
*Supplier Number		Char(15)
*Applicant Submitted		Char(1)

Order Approval History 1316

Column Name	Description	Data Type
*Order Number		Char(15)
*Approved By		Char(15)
*Electronic Signature		Char(40)

Order Replacement Table 1318

Column Name	Description	Data Type
*Order Number		Char(15)
*Replacement Order Number		Char(15)
*Replacement Reason		Char(80)

Order Extension Table 1320

Column Name	Description	Data Type
*Original Order Number		Char(15)
*Job Extension Request Date		Date
*New Job End Date		Date
*Reason For Extension		Char(80)
*New Order Number		Char(15)

Order Employee Table 1322

Column Name	Description	Data Type
*Order Number		Char(15)
*Applicant Number		Char(15)

Supplier Employee Table 1324

Column Name	Description	Data Type
*Applicant SS Number		Char(9)
*Supplier Number		Char(15)
*Supplier Employee Number		Char(15)

Fire Rejection Reason Table 1326

Column Name	Description	Data Type
*Order Number		Char(15)
*Rejection Reason		Char(255)
*Rejection Date		Date
*Rejected By	Link to Supplier Directory	Char(15)

Pay Rate Table 1328

Column Name	Description	Data Type
*Order Number		Char(15)
*Effective Date		Date
*New Pay Rate		Numeric(8,2)
*New Bill Rate		Numeric(8,2)
*Requested Date		Date
*Status		Char(15)

Interview Table 1330

Column Name	Description	Data Type
*Interview Number		Char(15)
*Order Number		Char(15)
*Applicant SS Number		Char(9)
*Interview Type	1c Telephone	Char(40)
*Alternate Time1		Date/Time
*Alternate Time2		Date/Time
*Interview Time		Date/Time
*Interview Comments		Memo
*Interview Outcome		Char(40)
*Interview Source		Char(40)
*Interviewer Number	Link to customer	Char(15)

Evaluations 1332

Column Name	Description	Data Type
*Applicant SS Number		Char(9)
*Sequence Number		Numeric(8)
*Order Number		Char(15)
*Eval Date		Date
*Eval Comment		Memo
*Request Agent		Char(1)

I = Default "Yes"

Evaluation Detail 1334

Column Name	Description	Data Type
*Applicant SS Number		Char(9)
*Sequence Number		Numeric(8)
*Order Number		Char(15)
*Performance Criteria		Char(40)
*Performance Evaluation		Numeric(8,2)

Figure 6

Figure 6 (cont.)

1344 (cont.)

Applicant Documentation 1342

Column Name	Description	Data Type
Applicant Number		Char(15)
Valid Check		BLOB
W 4		BLOB
19		BLOB
Other		BLOB
Bank Account Number		Char(40)
Bank Name Number		Char(15)

Pass thru Table 1344

Column Name	Description	Data Type
Invoice Number		Char(15)
Order Type		Char(40)
Requested By		Char(40)
Requester Phone		Char(40)
Requester E-mail		Char(40)
Position Title		Char(40)
Position Description		Char(40)
Comments		Char(40)
Start Date		Char(15)
End Date		Char(15)
Supplier		Char(40)
Supplier Employee Number		Char(15)
VBAR Employee Number		Char(15)
Reason		Char(40)
Location		Char(40)
Cost Center		Char(15)
Start Time		Time
End Time		Time
Arrival Date		Char(15)
Order Number		Char(15)
Supplier ID		Char(15)
Supplier Email		Char(40)
Applicant First Name		Char(40)
Applicant Last Name		Char(40)
Applicant Middle Initial		Char(1)
Applicant SSN Number		Char(9)
Applicant Status		Char(15)
Material Status		Char(1)
Examples		Char(1)
Blood		Char(1)
Total Gross Pay		Numeric(12)
Invoice Day		Numeric(12)
Invoice Eve		Numeric(12)
Invoice Night		Numeric(12)
Invoice OT		Numeric(12)
Blood		Numeric(12)
Invoice Subtotal		Numeric(12)
Substitution Date		Char(1)
Confirmation Receipt		Char(1)
Supplier Paid Date		Char(1)
Sales Tax		Char(1)
Invoice Total		Numeric(12)
What are the multiple submissions/confirmations dates?		Numeric(12)

Time Sheet Rejection 1335

Column Name	Description	Data Type
Time Sheet Number		Char(15)
Time Sheet Rejection Reason		Char(40)
Rejected Date		Date
Rejected By		Char(15)

Applicant Expenses 1340

Column Name	Description	Data Type
Time Sheet Number		Char(15)
Expense Description		Char(40)
Expense Amount		Numeric(8,2)
Expense Documentation		BLOB

Pay Rate	Numeric(8,2)
Person Customer	Char(40)
Source	Char(40)
Original Source	Char(40)
Report To	Char(40)
Report To Phone	Char(15)
Report To Title	Char(40)
Report Address1	Char(40)
Report Address2	Char(40)
Report Address3	Char(40)
Report City	Char(40)
Report State	Char(40)
Report Zip	Char(11)
Report Pager	Char(15)
Report Cell	Char(15)
Report Section	Char(40)
Report Salar	Char(40)
Report Division	Char(40)
Report Department	Char(40)
Report Area	Char(40)
Duration Days	Numeric(8,2)
Position Class	Char(40)
Reason Class	Char(40)
Reason Group	Char(40)
Reasons	Numeric(8,2)
Time To Fill	Numeric(8,2)
Time To Fill Perf	Numeric(8,2)
Retention	Date
Retention2	Date
Retention3	Date
Extension End Date1	Date
Extension End Date2	Date
Extension End Date3	Date
Number of Extensions	Numeric(3)
Supplier Email	Char(40)
Original Order Number	Char(15)
Run Date	Date
Full Time Position	Char(1)
Hire Comment	Char(40)
Week Ending Date	Char(1)
Total Day Hours	Date
Total Eve Hours	Numeric(8,2)
Total Night Hours	Numeric(8,2)
Total Overtime Hours	Numeric(8,2)
Total Hours	Numeric(8,2)
Gross Pay Day	Numeric(8,2)
Gross Pay Eve	Numeric(8,2)
Gross Pay Night	Numeric(8,2)
Gross Pay OT	Numeric(8,2)

1410
Applicant Table 1402 140 1406

Column Name	Description	Data Type
*SS Number		Char(9)
*Last Name		Char(40)
*First Name		Char(40)
*Marital Status		Char(1)
*Exemptions		Numeric(8)
*Address1		Char(40)
Address2		Char(40)
Address3		Char(40)
*City		Char(40)
*State		Char(2)
*Zip		Char(11)
Country		Char(40)
*Phone		Char(15)
Cell		Char(15)
Fax		Char(15)
*E-mail		Char(40)
E-mail Personal		Char(40)
Pager		Char(15)
Message Phone		Char(15)
Emergency Contact		Char(40)
Emergency Contact Phone		Char(15)
Emergency Contact Relationship		Char(40)
*Source Type		Char(40)
W2 Employee		Char(1)
1099 Worker		Char(1)
Has Health Insurance		Char(1)
Insurance Carrier		Char(40)
Insurance Group Num		Char(40)
Insurance Policy Num		Char(40)
Military		Char(40)
Rank		Char(40)
Security Clearance		Char(40)
MilFrom		Date
MilTo		Date
*Last Update To This Record		Date/Time
Resume		BLOB
Applicant Bar Code		BLOB
Drug Testing OK		Char(1)
BG Checks OK		Char(1)
Subject Non Compete		Char(1)
Subject Employment Contract		Char(1)
Site Visits		Numeric(8)
*Number of Assignments		Numeric(8)
*Number of Interviews		Numeric(8)
*ChafRoomVisits		Numeric(8)
*Job Fairs		Numeric(8)
*VEMP Employee Number		Char(15)
*Last Visit		Date/Time
*Active		Char(1)
Supplier Employee Number		Char(15)
TimeZone		Char(5)

Applicant Education 1415

Column Name	Description	Data Type
Applicant SS Number		Char(9)
School Name		Char(40)
Degree Type		Char(40)
Graduation Date		Date
GPA		Numeric(8,2)

Applicant Work History 1420

Column Name	Description	Data Type
Applicant SS Number		Char(9)
Employer Name		Char(40)
Start Date		Date
End Date		Date
Title		Char(40)
Department		Char(40)
Direct Reports	Default 0	Numeric(8)
Job Duties		Memo
Reason Name		Char(40)
Industry Code		Numeric(8)
SIC		Char(40)
Report To Name		Char(40)
Report To Title		Char(40)
Employer Address1		Char(40)

Employer Address2		Char(40)
Employer Address3		Char(40)
Employer City		Char(40)
Employer State		Char(2)
Employer Zip		Char(11)
Employer Phone		Char(15)
Employer Fax		Char(15)
Employer Message Phone		Char(15)
Employer E-mail		Char(40)
Reference OK		Char(1)
Comp and Bonus		Numeric(8)

Applicant Skills 1425

Column Name	Description	Data Type
Applicant SS Number		Char(9)
Position Class		Char(40)
Position Group		Char(40)
Position		Char(40)
Ranking		Numeric(8,2)

Applicant Availability 1430

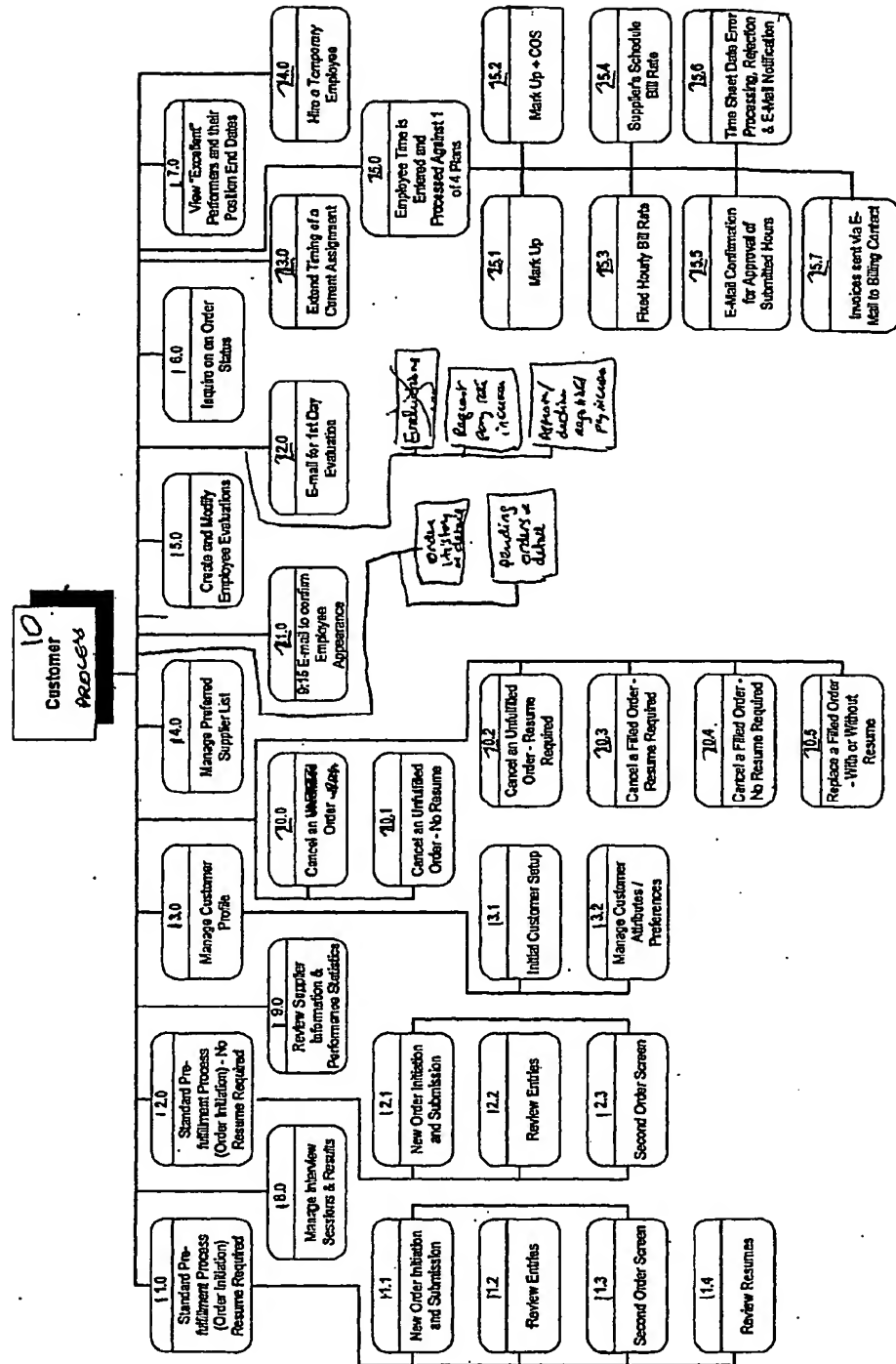
Column Name	Description	Data Type
*Applicant SS Number		Char(9)
*Monday		Char(1)
*MonFrom		Time
*MonTo		Time
*Tuesday		Char(1)
*TuesFrom		Time
*TuesTo		Time
*Wednesday		Char(1)
*WedFrom		Time
*WedTo		Time
*Thursday		Char(1)
*ThursFrom		Time
*ThursTo		Time
*Friday		Char(1)
*FriFrom		Time
*FriTo		Time
*Saturday		Char(1)
*SatFrom		Time
*SatTo		Time
*Sunday		Char(1)
*SunFrom		Time
*SunTo		Time

1400

Figure F

3.1.3.4 Transactions Setup & Workflow

Figure B(a)



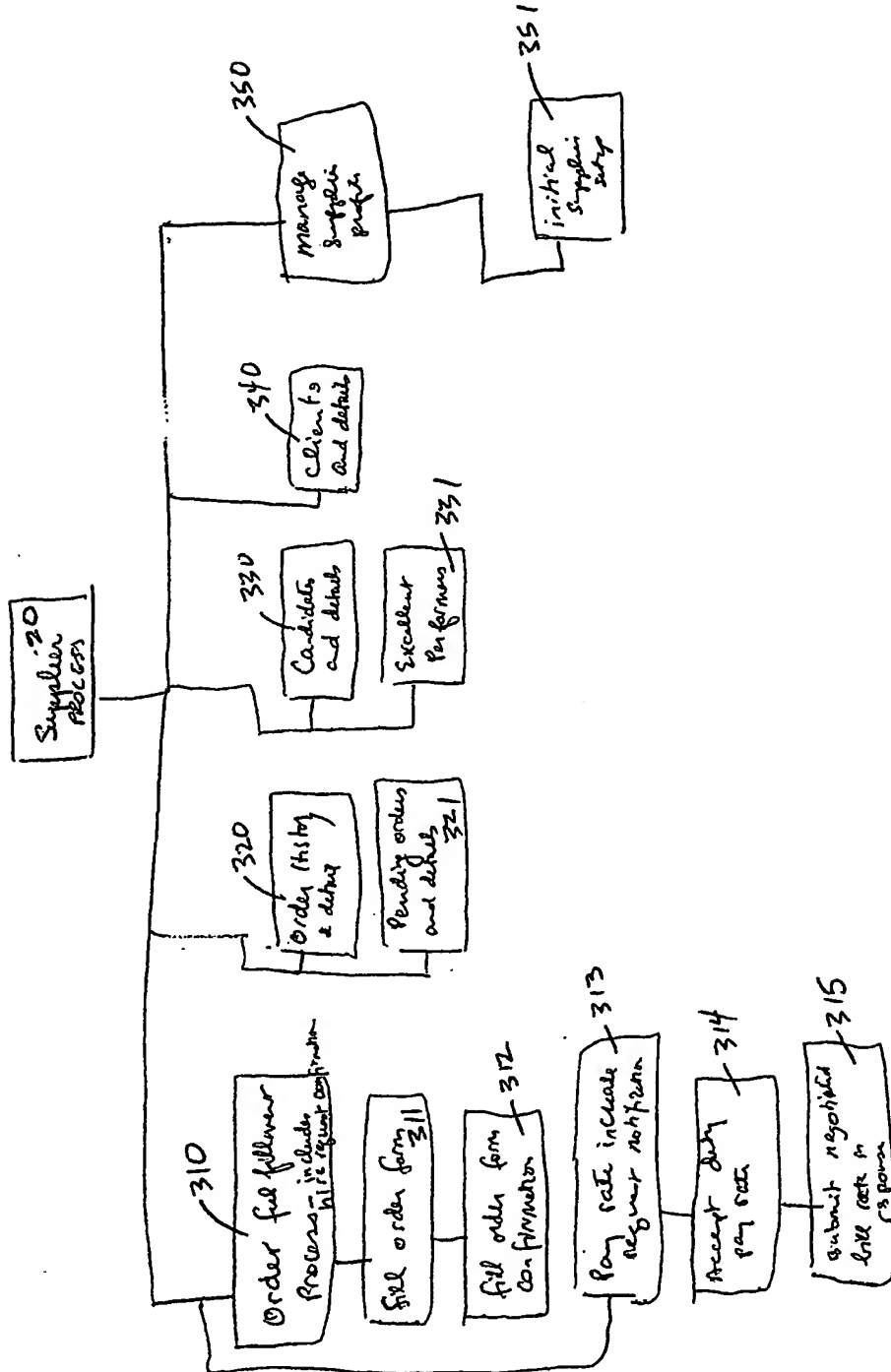


Fig. 8 (b)

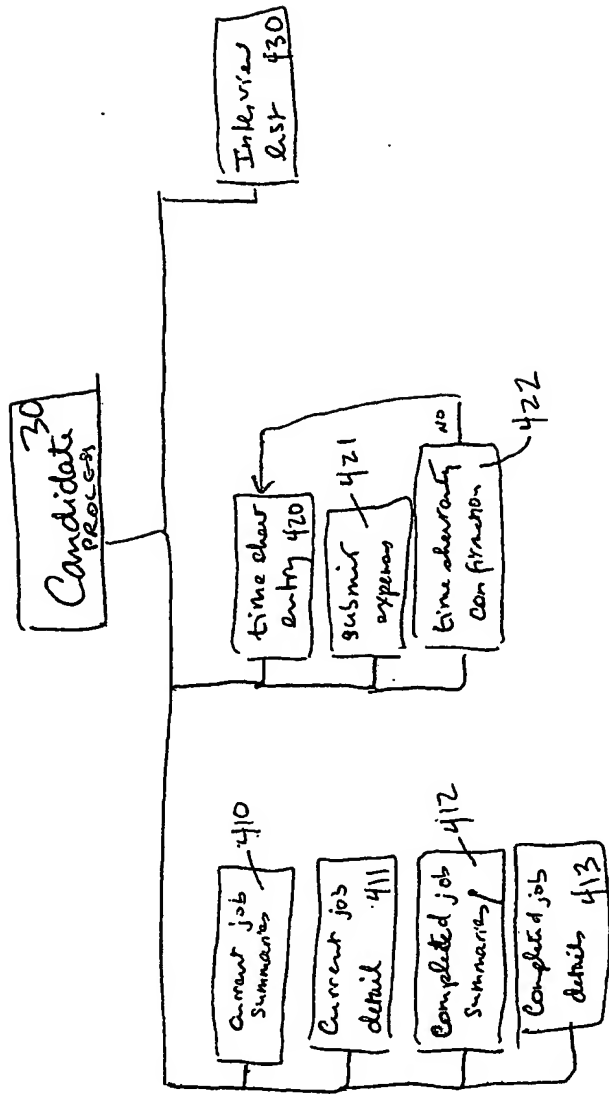


Fig. 8(c)

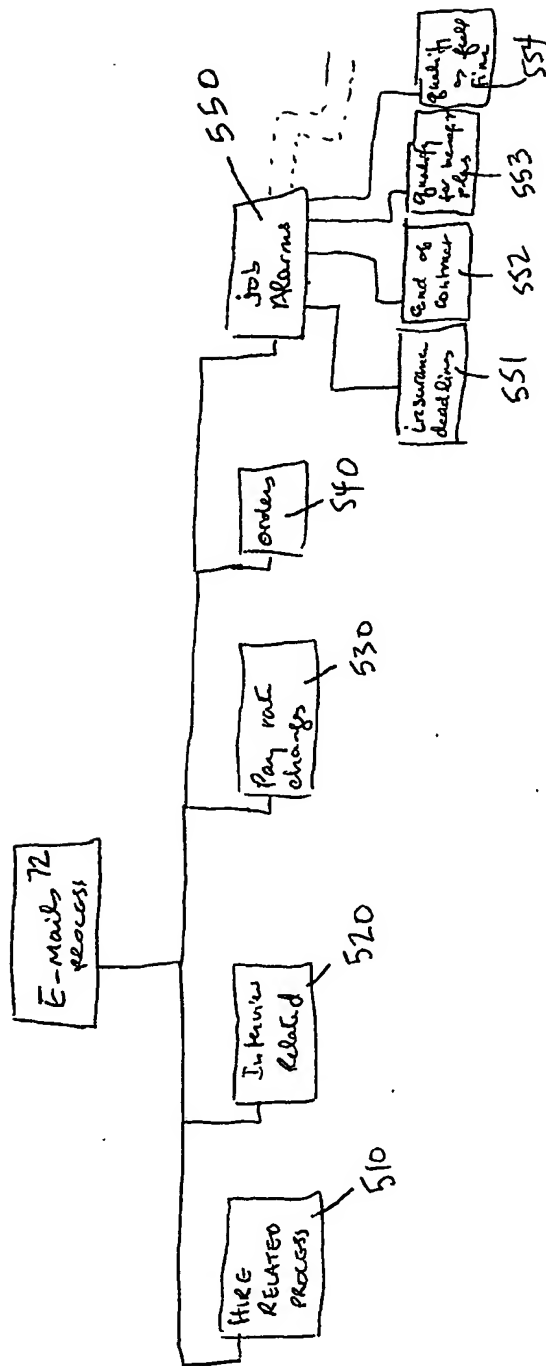
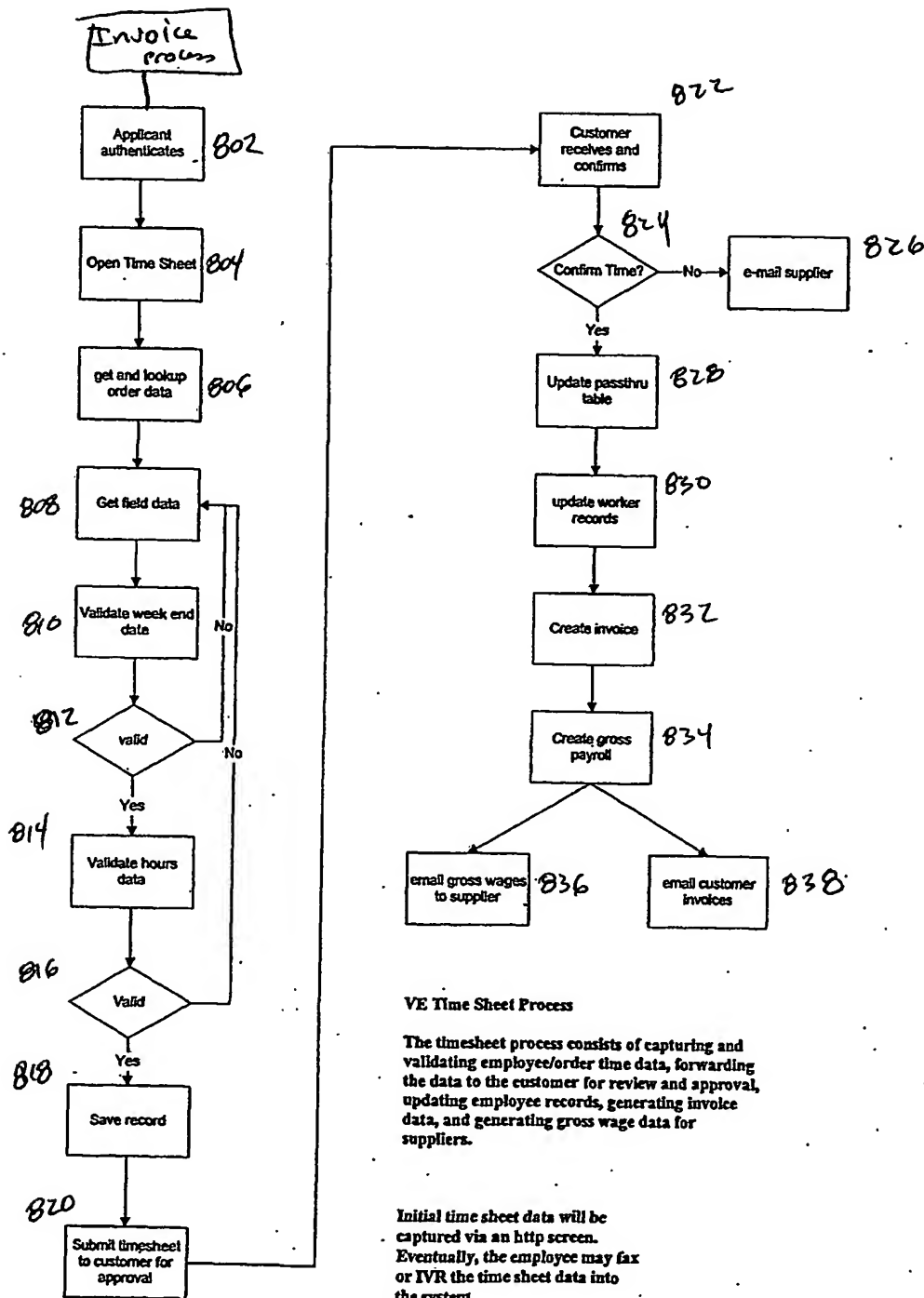


Fig. 8(d).





VirtualEmploy.com

Welcome Mary Smith.

Agne Plumbing

Get My...

Select

New Order

You have submitted 0 order this session ([View Pending Orders](#))

[illegible]

950

955

Solar Spring

Spring

960

Figure 9

- 1000 Receives order from Customer
- 1005 Validates data
- 1010 Assigns order#
- 1015 Loads record into "Orders" Table with OrderFlag=Pending
- 1020 Updates order record where applicable
- 1025 Sends E-Mail confirmation to end user
- 1030 Send Encapsulated Email through the approval process (based on the position of the person initiating the order create a serial routing process for each step in the hierarchy for that cost center -- determined via the staff hierarchy table)
- 1035 Once approved, sends E-Mail of order to Suppliers as instructed
- 1040 Monitors Time to Fill against Time of Day (In this case it is when TTF is when Resumes are submitted)
- 1045 Updates database where applicable for orders, suppliers, customers, positions etc...

Figure 10

Get My...

Evaluations

Evaluations

1100 ↓



Complete the form below to enter a completed evaluation to your database.

Enter Evaluation

1101

Evaluator

Mary Smith

1102

Employee

Sam Westerley

1103

Position

Self Programmer

1104

Supplier

KYZ Temps

1110

Employee

Always Accurate

1115

Employee

Always Accurate

1120

Employee

Always Accurate

1125

Would you like to approve supplier?

Select ☒

Comments

1130

Submit

Reset Form

1135

Figure 11

Get My...
Select

New Order Search Help

Order History

(October 8, 1999, 10:38 AM)

Advanced Search

Current View: Order Status: Current Order Date: All; Employee: All; Supplier: All; Position: All; Season: All; Cost: All

Select an employee to review weekly time, invoices & performance charts, request extensions, cancel orders, submit evaluations, hire and replace

Name: 1701 Start: 1702 End: 1703 Supplier: 1710 Position: 1715 Hours: 1720 Cost: 1725

Name	Start	End	Supplier	Position	Hours	Cost
1701	1702	1703	1710	1715	1720	1725
1701	1702	1703	1710	1715	1720	1725
1701	1702	1703	1710	1715	1720	1725

Figure 17

Get My...

Pending Orders

New Order

Support

Help

Pending Orders

Order Detail — Order No. 12345678

CANCEL THIS ORDER

Product	1305
Product	1310
Product	1315
Product	1320
Product	1325
Product	1330
Product	1335
Product	1340
Product	1345
Product	1350
Product	1355

General Comments:

1301

1300

Figure 13

Welcome Mary Smith
Acme Plumbing

Get My ...
Excellent Performers

New Order Ship Ref

Excellent Performers

Advanced Search

Current View: (Last Work Date=All; Employee=All; Supplier=All; Position=All; Reason=All; Rate=All)

To request an Excellent Performer, click on Request for Current Order:

Name: 1401 Worked for: 1402 Ex: 1403 Supplier: 1410 Last Date: 1405 Rate (\$): 1420 Eval: 1425

John Smith	John Smith	1401	1402	1403	1405	1420	1425
John Smith	John Smith	1401	1402	1403	1405	1420	1425
John Smith	John Smith	1401	1402	1403	1405	1420	1425
John Smith	John Smith	1401	1402	1403	1405	1420	1425

Figure 14

Get My...

Current Job Summaries

New Timesheet Help

1500

Timesheets

Complete the form below to enter a timesheet.

Enter Timesheet

Enter your name and date of birth

1505

1510

1515

Enter your name: [Text Field]

Enter your date of birth: [Date Picker]

Select your day of the week: [Radio Buttons]

Monday, 10/1/99

Enter your start time: [Text Field]

Enter your end time: [Text Field]

Enter your location: [Text Field]

Yes [Checked] No []

9:00 AM 5:00 PM

Select [Dropdown]

1530

1520

1525

Figure 15

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/33745**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : G06F 17/60

US CL : 705/1, 9

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. :

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST 2.0, CAS ONLINE, DIALOG, IEEE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,117,353 A (STIPANOVICH et al) 26 May 1992, see entire document.	1-47
A	US 5,164,897 A (CLARK et al) 17 November 1992, see entire document.	1-47
A	US 5,832,497 A (TAYLOR) 03 November 1998, see entire document.	1-47
A	US 5,978,768 A (MCGOVERN et al) 02 November 1999, see entire document.	1-47

☐ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

28 JANUARY 2001

Date of mailing of the international search report

18 APR 2001

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